

(This ADEQ document matches the official rulemaking published at 4 A.A.R. 665)

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 5. DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL REVIEWS AND CERTIFICATION

ARTICLE 2. PUBLIC AND SEMIPUBLIC SWIMMING POOLS AND SPAS

PREAMBLE

Sections Affected	Rulemaking Action
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Illustration A	New Illustration
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2. The specific authority for the rulemaking including, both the authorizing statute (general) and the statutes the rules are implementing (specific):

General and specific statutory authority: A.R.S. §49-104(B)(12)

3. Effective date of the rules: The effective date of the rules shall be the date that the final rules are filed with the Office of the Secretary of State as prescribed by A.R.S. §41-1031(A) and §41-1032.

4. A list of all previous notices appearing in the Register addressing the final rule:

The Notice of Docket Opening for this rulemaking was published in 3 A.A.R 871 on March 28, 1997.

The Notice of Proposed Rulemaking was published in 3 A.A.R. 1033 on April 11, 1997.

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Mr. Steven Pawlowski

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6. An explanation of the rule, including the agency's reasons for initiating the rule:

The adopted rules regulate the design and construction of public and semipublic swimming pools and spas. The rules prescribe minimum design standards for public and semipublic swimming pools and spas and the administrative procedures for design approvals and Approvals of Construction. The Director of the Arizona Department of Environmental Quality [ADEQ] adopted minimum design standards that are consistent with voluntary national standards for public swimming pools and spas that have been developed by the American National Standards Institute [ANSI] and the National Spa and Pool Institute [NSPI]. The minimum design criteria also are generally consistent with current swimming pool and spa ordinances that have been promulgated by Maricopa and Pima counties.

The rules require the submittal of design plans and specifications to ADEQ for review and approval prior to the construction of a public or semipublic swimming pool or spa. The rules also authorize construction inspections by ADEQ or third party certifications to determine whether public and semipublic swimming pools and spas have been constructed in accordance with approved design plans and specifications. The rules authorize the issuance of an abatement order to close a public or semipublic swimming pool which has not been constructed in compliance with the prescribed minimum design standards. Finally, the rules include special use pool and variance provisions which provide regulatory flexibility and which make it possible for ADEQ to conduct engineering reviews of new and innovative swimming pool and spa designs using best professional judgment.

The adopted rules implement A.R.S. §49-104(B)(12). A.R.S. §49-104(B)(12) states that ADEQ, through its Director, shall:

Prescribe reasonably necessary measures to prevent pollution of water used in public or semipublic swimming pools and bathing places and to prevent deleterious conditions at such places. The rules shall prescribe minimum standards for the design of and for sanitary conditions at any public or semipublic swimming pool or bathing place and provide for abatement as public nuisances of premises and facilities which do not comply with the minimum standards. The rules shall be developed in cooperation with the director of the department of health services and shall be consistent with the rules adopted by the director of the department of health services pursuant to §36-136, subsection H, paragraph 11.

The Arizona Department of Health Services [ADHS] has jurisdiction to regulate certain aspects of the operation and maintenance of public and semipublic swimming pools and bathing places. Under A.R.S. §36-136(H)(11), the Director of ADHS is required to:

Prescribe reasonably necessary measures to prevent pollution of water in public or semipublic swimming pools and bathing places and to prevent deleterious health conditions at such places. The rules shall prescribe minimum standards for sanitary conditions which shall be maintained at any public or semipublic swimming pool or bathing place, and shall provide for inspection of such premises and abatement as public nuisances of any premises and facilities which do not comply with minimum standards. The rules shall be developed in cooperation with the director of the department of environmental quality and shall be consistent with the rules adopted by the director of the department of environmental quality pursuant to §49-104, subsection B, paragraph 12.

ADHS promulgated the current swimming pool rules that are found in Title 9 of the Arizona Administrative Code [See A.A.C. R9-8-801 through R9-8-852]. These ADHS rules prescribe minimum design standards and minimum standards for maintaining sanitary conditions at public and semipublic swimming pools and spas. ADEQ uses the Title 9 rules to conduct engineering design reviews of public and semipublic swimming pools and spas. The Title 9 rules do not have any historical notes which indicate when they were first adopted or last revised. However, ADEQ has determined that the rules have not been updated since at least the early 1980's. The current Title 9 rules are virtually identical to ADHS rules that were published in the 80-3 supplement to the Arizona Compilation of Administrative Rules and Regulations. Persons who attended the oral proceedings for this rulemaking commented that the Title 9 swimming pool rules may not have been updated since the late 1960's. In either case, the minimum design standards that are prescribed in the Title 9 rules need to be updated.

When ADEQ was established as a separate state agency in 1986, the Arizona Legislature provided for a transition of duties and responsibilities from ADHS (ADEQ's predecessor state agency) to ADEQ. The Legislature provided in ADEQ's enabling legislation that "from and after June 30, 1987, the Department of Environmental Quality succeeds to the authority, powers, duties, and responsibilities of the Division of Environmental Health of the Department of Health Services" [See Laws 1986, Ch. 368, §146]. The transition provision also provides that "administrative rules adopted by the division continue in effect until superseded by administrative action by the Department of Environmental Quality." ADEQ has continued to conduct engineering design reviews of public and semipublic swimming pools and spas using ADHS rules pursuant to this transition provision. The adopted rules are intended to supersede the sections of the ADHS rules that relate to the engineering design review of public and semipublic swimming pools and spas. When the adopted rules become effective, ADHS will have to amend the Title 9 swimming pool rules to repeal any sections which relate to engineering design review that are superseded by this rulemaking.

The adopted rules apply only to the design and construction of *public and semipublic* swimming pools and

spas. A “public swimming pool” or a “public spa” is defined as a swimming pool or spa that is open to members of the general public regardless of whether a fee is charged for admission [See R18-5-201]. The terms include a swimming pool or spa that is operated by a county, municipality, school district, or other political subdivision, or a university or college. It also includes any commercial swimming pool or spa that is open to the public where the primary business of the facility is the operation of a swimming pool or spa. A “semipublic swimming pool” or “semipublic spa” means a swimming pool or spa that is operated in conjunction with a lodging such as a hotel, motel, resort, apartment, townhouse or condominium complex, trailer court, mobile home park, or a recreational vehicle park. The term also includes a swimming pool or spa that is operated in conjunction with a country club, health club, camp, and similar establishments. Finally, “semipublic swimming pool” or “semipublic spa” includes a swimming pool or spa that is operated by a neighborhood or homeowner’s association for the residents of a community and their guests but which is not open to members of the public. The rules do not apply to swimming pools and spas at private residences [including swimming pools and spas at duplexes or triplexes]. The rules do not apply to natural or semiartificial bathing places such as lakes, ponds, beaches, or hot springs. Finally, the rules do not apply to swimming pools and spas that are used for medical or physical therapy which are supervised by licensed medical personnel [See A.A.C. R18-5-202].

Under the adopted rules, any person who wants to construct a new public or semipublic swimming pool or spa or who wants to modify an existing public or semipublic swimming pool or spa, must obtain a design approval from ADEQ. The rules require the submittal of an application for design approval and the submittal of complete design plans and specifications for the swimming pool or spa. ADEQ engineers review the design plans and specifications to determine whether the planned construction complies with the minimum design standards that are prescribed in the rules. If the design plans and specifications comply with the rules, then ADEQ issues a design approval authorizing the construction project [See A.A.C. R18-5-203]. The actual construction of a public or semipublic swimming pool or spa must conform to the ADEQ-approved plans and specifications. An additional approval from ADEQ is required should it be necessary to make changes to the ADEQ-approved plans and specifications during construction. No public

or semipublic swimming pool or spa may operate without receiving a final "Approval of Construction" from ADEQ. The adopted rules provide for an ADEQ inspection of the construction or third party certification of the public or semipublic swimming pool or spa to certify that it has been constructed in accordance with ADEQ-approved plans and specifications.

The adopted rules include a special use pool provision at R18-5-248. A special use swimming pool is one that is designed specifically for competitive aquatic events, aquatic exercise, lap swimming, or specialized aquatic instruction [e.g., scuba training]. The term, "special use pool" also includes specialized swimming pools that are part of a water recreation park [e.g., wave action pools, exit pools for water slides, and watercourses]. Special use swimming pools may have unique design requirements which cannot be addressed adequately in rules which apply generally to public and semipublic swimming pools. The special use pool rule is intended to provide regulatory flexibility and allow the Department to use best professional judgment when evaluating the design of special use pools.

The adopted rules also include a variance provision at R18-5-249. Like the special use provision, the variance rule is intended to provide regulatory flexibility and permit the use of alternative designs, materials, or equipment that are equivalent to those required by the rules. The Department recognizes that new swimming pool and spa technologies are constantly being developed. There needs to be a procedure in the swimming pool and spa rules which permits the use of alternative designs, materials, or equipment that are demonstrated to be equivalent to those that are required by the rules and that will not result in an unreasonable risk to persons who will be using the swimming pool or spa. The variance rule establishes this procedure. It provides authority for ADEQ to convene an advisory committee of representatives of swimming pool or spa owners, building contractors, professional engineers, and public health officials to

consider variance requests and to make recommendations to the Department as to whether a variance request should be granted or denied.

The adopted rules include an inspection provision which provides authority for ADEQ staff to conduct construction inspections of public and semipublic swimming pools and spas to determine compliance with the rules. The rules also include an enforcement section. If an ADEQ inspector finds a violation of any of the rules, then the Department may issue a notice of violation to the owner of the swimming pool or spa. The adopted rule provides authority for ADEQ to order the closure of a public or semipublic swimming pool or spa if ADEQ has reasonable cause to believe that it has been constructed in violation of the adopted rules.

7. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

8. The summary of the economic, small business, and consumer impact:

The following classes or groups of persons will be affected by the rules, to the extent that they are owners of public or semipublic swimming pools or spas, swimming pool or spa contractors, or providers of services or materials and equipment used in the design, construction, operation, and maintenance of swimming pools and spas:

1. Hotel and motel owners;
2. Owners of commercial water parks and wave pools;
3. Homeowners associations and owners of apartment and condominium complexes, mobile home parks, trailer courts, recreational vehicle parks, country clubs, health clubs, camps, or similar establishments with swimming pools or spas;
4. Counties that have agreements with ADEQ that have been delegated authority to approve the design and construction of public and semipublic swimming pools and spas within their jurisdiction.
5. Municipalities and school districts which operate public swimming pools or spas;

6. Engineering and architectural firms;
7. Swimming pool and spa contractors who are licensed in Arizona;
8. Manufacturers and distributors of equipment and supplies for swimming pool and spas.

A. The probable costs and benefits to the Arizona Department of Environmental Quality and any other state agency; anticipated impact on state revenues.

The ADEQ Technical Engineering Unit, which is part of the Water Quality Division, is responsible for the review and approval of the plans for the design and construction of public and semipublic swimming pools and spas. The Technical Engineering Unit conducts approximately 30-60 design reviews of public and semipublic swimming pools and spas each year. Implementation of the rules will not result in any incremental costs to ADEQ because the regulatory infrastructure for engineering design review of public and semipublic swimming pools and spas is already in place. ADEQ anticipates no increases in staff or budget to implement the adopted rules.

The Arizona Department of Health Services (ADHS) Food Protection and Institutional Sanitation Section is responsible for the inspection of the sanitary conditions at public and semipublic swimming pools and spas. The adopted rules will have no effect on ADHS. ADHS will continue to inspect sanitary conditions at public and semipublic swimming pools and spas pursuant to ADHS rules that are prescribed in Title 9 of the Arizona Administrative Code. It is anticipated that ADHS will need to initiate rulemaking to repeal current ADHS rules that relate to the engineering design review of public and semipublic swimming pools and spas.

The adopted rules will not create any revenues for the state because no fees are currently being assessed by ADEQ for the engineering design review process and none are included in the adopted rules.

A. Counties

No changes to the regulatory process are anticipated for any political subdivision, except for counties that have entered into delegation agreements with ADEQ to administer the public and semipublic swimming pool and spa rules. The only counties that have entered into such agreements are Maricopa County and Pima County. These counties will have to amend their local swimming pool and spa ordinances to conform them to the adopted rules where local ordinances are less stringent than the statewide design standards. In counties which do not have delegation agreements with ADEQ, ADEQ will implement and enforce the adopted rules directly.

At the present time, the Maricopa County Environmental Services Division [MCESD] reviews the design and oversees the construction of public and semipublic swimming pools and spas in Maricopa County. MCESD regulates swimming pools and spas under local ordinances found in the Maricopa County Health Code. The Pima County Health Department administers the Pima County Health Code which includes ordinances which regulate the construction and operation of public and semipublic swimming pools and spas. Maricopa County and Pima County will need to make minor revisions to their current swimming pool and spa ordinances. ADEQ expects that the required revisions will be minimal because ADEQ adopted minimum design standards that are generally consistent with Pima and Maricopa County's current ordinances.

Maricopa County and Pima County charge fees for the engineering design review of public and semipublic swimming pools and spas and for operating permits. In Maricopa County, the owner or the contractor (on behalf of the owner) who wants to build a public or semipublic swimming pool or spa is charged a fee which is based on the square footage of the swimming pool or spa:

500 sq.ft. or less--	\$150
501 to 1000 sq.ft.--	\$200
1001 to 2000 sq.ft.--	\$680
2001 to 9999 sq.ft.--	\$795
10,000 sq.ft. or more--	\$1,055

Inspections are conducted by MCESD staff. If reinspections are required, a \$60 fee is charged for each reinspection. If a pump test is required, a fee of \$125 is charged. \$100 is charged for each variance request. An operating permit is issued by the Maricopa County Field Services Section after construction, which costs \$200 and is good for a two-year period. MCESD is currently reviewing its fee schedule and is planning to introduce some changes. These costs are usually paid by the swimming pool or spa contractor during the permitting process and are passed on to the owner. In Pima County, fees for design reviews and final inspections of public and semipublic swimming pools are \$53. Pima County also charges an annual operating permit fee. Pima County's operating permit fees range from \$37 to \$65. These county fees will remain unchanged by ADEQ's adopted rules.

B. Municipalities, school districts, and universities

Municipalities, school districts, universities, and colleges that operate public swimming pools will be affected by the adopted rules. These entities provide swimming pools as an amenity for the use of residents within the municipality or students within the school district, university, or college. Public pools, because of their relative size, bathhouse, and other requirements tend to be more expensive to build than the average semipublic swimming pool. According to private contractors, the average cost of a public swimming pool ranges from \$150,000 to \$400,000. However, these are only average costs and the cost of individual public pools may be much higher. For example, the latest public pool built by the City of Mesa (Shepherd Pool) cost \$1.4 million. Frequently, municipalities construct public pools with new design features, such as wave pools, water slides, fountains, and artificial beaches. In general, the costs associated with the construction of public swimming pools are driven by market forces, not by government regulation.

The adoption of the proposed minimum design standards should not increase the costs of public swimming pool construction because the criteria are based upon generally accepted industry standards.

C. Owners and operators of semipublic swimming pools

The owners of semipublic swimming pools will be affected by the adopted rules. These are owners of hotels, motels, apartment complexes, condominiums, country clubs, health clubs, and similar establishments who operate swimming pools for the use of their clientele and members. The average cost of a semipublic swimming pool ranges from \$25,000 to \$40,000. In general, semipublic swimming pools tend to be smaller in size than public swimming pools. However, there is tremendous variation not only in the size but also in the design and construction of semipublic swimming pools.

The cost of construction of some semipublic swimming pools can be very high. At the upper end of the cost range (\$350,000 to more than \$1 million), the trend has been away from the basic rectangular swimming pool to the creation of recreational water parks. This usually means the building of swimming pools with embellished natural settings, waterfalls, artificial watercourses, water slides, fountains, children's spray pools, game pools, wave pools, and artificial beaches. Architectural and design features which were never imagined when the current design criteria for semipublic swimming pools were adopted more than 30 years ago are becoming the norm rather than the exception. For example, the Pointe Hilton Resort at Squaw Peak in Phoenix features an 8-acre water park called the Hole-in-the-Wall River Ranch. This water park features a network of three swimming pools, a 1,000 foot river canal, a waterfall cascading over artificial boulders, and a 130-foot water slide. The cost to construct the Hole-in-the Wall River Ranch was approximately \$3 million. Another example of a "high-end" semipublic swimming pool is found at the Arizona Biltmore Hotel which recently refurbished its swimming pool complex by constructing a soundproofed, 95-foot water slide and a 20-foot waterfall. The most expensive of the semipublic swimming pools built to date is reputed to be that of the Phoenician Hotel. Its swimming pool cost approximately \$5 million. Nothing in the adopted rules will significantly alter the cost of building these facilities. The differences between the adopted design standards and the current design standards are minor

and will not materially affect overall costs, which are essentially market-driven.

The current swimming pool rules have restricted the construction of water parks and swimming pools with new design features in the non-urbanized counties of Arizona. Maricopa County and Pima County have been able to approve nonconforming swimming pools by relying on variance and special use pool provisions in their county ordinances. The state's current swimming pool rules do not provide this kind of regulatory flexibility. The adopted rules will create additional regulatory flexibility by including variance and special pool provisions. These provisions will allow owners to build public and semipublic swimming pools and spas that are more in keeping with market changes and customer demands without compromising health and safety standards.

D. Architects, professional engineers, and swimming pool and spa contractors

The other class of persons who will be affected by the adopted rules will be the architects, engineers, and swimming pool and spa contractors who do business in Arizona outside of Maricopa County and Pima County. They will have more flexibility to design and build swimming pools and spas more in keeping with their customer's demands.

According to the Arizona State Registrar of Contractors, there are 58 licensed commercial swimming pool contractors currently doing business in Arizona. A licensed contractor can work anywhere in Arizona. Because the adopted rules will standardize design and construction requirements statewide, a positive impact may be felt by licensed contractors who work outside of Maricopa County and Pima County. They will now be able to conform to a single set of design standards.

This same positive note was stated by the Executive Director of the Arizona Chapter of the National Spa and Pool Institute, a trade association based in Phoenix. This trade association is composed of builders, contractors, service companies, and manufacturers and distributors of swimming pool supplies and equipment. The Institute has about 30 builder-members statewide, 20 of whom are based in Maricopa County. A fairly large number of the remaining builders are in Pima County and there is one each in Yuma, Prescott, Prescott Valley, and Bullhead City. Association members in Maricopa County probably will not feel any immediate impact, but if the restrictions imposed by the current rules are removed, more building of pools outside of Maricopa County could occur as the Arizona economy outside of the Phoenix and Tucson metropolitan areas improves. This will eventually affect service companies and manufacturers and distributors of pool supplies and equipment (pumps, motors, filtration systems, chemicals, cleaning systems, plumbing equipment, etc.). There are three major supply companies in the state and two out-of-state companies which supply about 80% of all the pools in Maricopa County. Their business is anticipated to increase, but to what precise extent cannot be calculated.

These impacts will be felt by contractors and other business owners, whether they conform to the statutory definition of small business or not. There will be no differential impact of these rules on small business owners with 100 or fewer employees, or with less than \$4 million in annual revenue. Neither will the adopted rules require any special reporting or compliance procedures that will affect small business owners differently.

E. Consumers

Consumers who will be affected by these rules are the users of public and semipublic swimming pools and spas. They will be affected only indirectly, because the use of swimming pools and spas constitute an optional amenity which customers of hotels, motels, multi-family residential complexes, or residents of a municipality or school district, may or may not take advantage of. However, it is generally recognized that swimming pools and spas are popular amenities. Since access to a semipublic swimming pool is normally built into the price of a hotel room or apartment rent, there are no additional costs which consumers have to

bear. In the case of water parks and other water recreation facilities, the price of admission is what consumers have to pay. These costs are independent of the adopted rules. The adopted rules should not result in any increase in the costs of construction of a public or semipublic swimming pool or spa. Thus, consumers should not see any additional costs passed through to them in the form of increased lodging costs, rents, or prices of admission.

F. Taxpayers

Public swimming pools are built and financed by municipalities and school districts in a variety of ways, usually by combining appropriations from the general fund with the issuance of bonds. Costs are passed on to taxpayers in the form of city sales taxes (City of Phoenix) and utility rates (City of Mesa). User fees are typically charged at public swimming pools but these fees do not fully recover costs. For example, user fees cover only about a third of the costs for operation and maintenance of public swimming pools in the City of Mesa and only 19% of the costs in the City of Phoenix. The taxpaying public ultimately pays for all of the costs to construct public swimming pools and most of the operation and maintenance costs. The adopted rules will not change the way that public pools are financed and paid for, nor will they increase construction, operation, or maintenance costs. Taxpayers should not see any additional costs passed through to them in the form of increased taxes, utility rates, or user fees.

G. Benefits

The benefits that will result from the adopted rules can be summarized as follows:

1. The introduction of flexibility into the state regulatory process will enable public and semipublic pool owners outside of Maricopa and Pima counties to build facilities with innovative design features in accordance with customer demand. This will also enable them to take advantage of new technologies available in the market and to increase their competitiveness. Direct economic benefits could thus be realized by the owners of public and semipublic swimming pools and spas.
2. Users of public and semipublic swimming pools and spas may have a greater variety of facilities to choose from, increasing the recreational value and potential community benefits they derive

from the use of these facilities. Swimming, especially competitive swimming programs that are part of public pool operations, have also been known to increase health and fitness benefits among participants.

3. City administrators refer to the indirect economic benefits derived from public pools in the community. These facilities are used to draw families and businesses looking to relocate to their area. These amenities are often cited as features of a community that enhance the quality of life.
4. City recreation administrators also regard public pools as an amenity that is made available to young people of a local jurisdiction which has high community and recreational value.

H. Impact on small business

The primary impact of the proposed rules will be to the owners of public and semipublic swimming pools and spas and persons engaged in the business of designing and building swimming pools and spas. As previously stated, the economic impact of the proposed rules will be minimal for all businesses, including small businesses. The adopted rules are essentially an incorporation of national design standards or local design standards which already govern the design and construction of public and semipublic swimming pools and spas in Maricopa County and Pima County. There will be no differential impact of these rules on business owners, regardless of the size of their employees or annual revenues. Since the economic impact of the adopted rules is expected to be minimal or nonexistent, there is no need to include special provisions to reduce impacts further for small businesses. There is no need for less stringent compliance or reporting requirements, compliance schedules, or deadlines for small businesses.

To the extent that the adopted rules will encourage the building of more public and semipublic swimming pools and spas outside of Maricopa County, small businesses may benefit directly and indirectly.

Furthermore, companies doing business in Arizona that will benefit directly are overwhelmingly "small" if we consider that these are business establishments with fewer than 100 employees. Data from the Bureau of the Census publication County Business Patterns, 1991 for Arizona indicate that between 90 and 99% of businesses that would be affected are classified as small businesses. These include, but are not limited to,

the following: hotel and motel operators (719); sporting and recreational camps (37); manufacturers of swimming pool equipment, plastics, filter systems, lighting fixtures, and other sporting and athletic goods (494); and general and specialized building contractors (6,690).

9. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

ADEQ made many changes to the proposed rules. Sections of the proposed rules where changes were made are reproduced below. If there is a change to a section, then the relevant text of the section is reproduced as proposed by ADEQ. Please note that the language of the section as proposed differs from the language of the current swimming pool rule as it appears in Title 9 of the Arizona Administrative Code. The current Title 9 rules are not reproduced in this part of the Notice of Final Rulemaking because its purpose is to describe the changes between the proposed and the adopted rules. Changes between the language of the proposed rule and the adopted rule are highlighted with **redlining**. Language that was deleted from the proposed rule is indicated by ~~strike-outs~~. Language that has been added to the proposed rule is indicated by underlining. If the proposed rule and the adopted rule are identical, then only the section number and its caption are reproduced, followed by the words, “No change.” An explanation of each change is provided in *italics*.

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 5. DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL REVIEWS AND CERTIFICATION
ARTICLE 2. PUBLIC AND SEMIPUBLIC SWIMMING POOLS AND SPAS

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~~Appendix Illustration A Diving Boards, Public and Semipublic Swimming Pools Diving Well Dimensions for Swimming Pools~~

~~Appendix B Average width of all swimming pools~~

~~Appendix C Illustration B~~ Minimum Distance Requirements for Decks

ADEQ changed the caption of R18-5-203 from "Approval to Construct" to "Design Approval" to reduce the potential for confusion with R18-5-204, "Approval of Construction." ADEQ renumbered the variance rule so that it follows the special use rule. The special use and variance sections are similar because they both are intended to provide regulatory flexibility and allow ADEQ to use alternative design criteria or best professional judgment in the construction approval process. They logically follow one another.

R18-5-201. Definitions

1. ~~"Accessible" means easily approached and exposed for inspection or maintenance.~~

ADEQ deleted this definition in response to a staff comment from the Governor's Regulatory Review Council. It is not necessary to define a term that has the same meaning as in every day usage.

~~2~~ 1. Definition of "air induction system" renumbered to 1.

~~3~~ 2. "Artificial lake" means a manmade lake, lagoon, or basin, lined or unlined, with a surface area equal to or greater than ~~two~~ 2 acres (87, 120 square feet), that is used or intended to be used for water contact recreation.

ADEQ changed the word, "two," to the Arabic numeral, "2," in response to a staff comment from the Governor's Regulatory Review Council. The rule drafting style manual of the Office of the Secretary of State states that all numbers should be written as Arabic numerals.

~~4~~ 3. “Backwash” means the process of thoroughly cleaning a filter ~~cleansing the filter medium or elements~~ by the reverse flow of water through the filter.

ADEQ changed this definition in response to a staff comment from the Governor’s Regulatory Review Council and to make the definition more concise and understandable.

~~5~~ 4. “Barrier” means a fence, wall, building, or landscaping ~~which~~ that obstructs access to a public or semipublic swimming pool or spa.

ADEQ changed this definition in response to a staff comment from the Governor’s Regulatory Review Council. The rule drafting style manual published by the Office of the Secretary of State states that “which” is used to introduce nonessential clauses and “that” is ordinarily used to introduce essential clauses.

~~6-8~~. The definitions of "cartridge filter," "construct," and "coping" were renumbered to 5-7.

~~9.8. “Cross-connection” means any physical connection or structural arrangement between a potable water system and any other source or system through which it is possible to introduce into any part of the potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the potable water system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary or permanent devices through which or because of which backflow can occur are considered to be cross-connections.~~ “Cross-connection” means any physical connection or structural arrangement between a potable water system and the piping system for a public or semipublic swimming pool or spa through which it is possible to introduce used water, gas, or any other substance into the potable water system. A bypass arrangement, jumper connection, removable section, swivel or change-over device, or any other temporary or permanent device that may cause backflow is a cross-connection.

ADEQ changed this definition in response to a staff comment from the Governor’s Regulatory Review Council. The proposed definition of “cross-connection” was adapted from the most recent edition of the Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California. ADEQ revised the definition to place it in the proper context of swimming pools and spas, make it more concise and understandable, and to change plural nouns to singular nouns.

~~10~~ 9. “Deck” means ~~those areas~~ a hard surface area immediately adjacent ~~to~~ or attached to a swimming pool or

spa that ~~are specifically constructed or installed~~ is designed for sitting, standing, or walking.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The proposed definition of "deck" was taken from the National Spa and Pool Institute [NSPI] glossary of industry terms published in the most recent Standard for Public Swimming Pools published by the American National Standard Institute and NSPI. ADEQ revised the definition to make it more clear, concise, and understandable.

10. "Deep area" means ~~any~~ the portion of a public or semipublic swimming pool that is more than 5 feet in depth.

ADEQ made this editorial change in response to a staff comment from the Governor's Regulatory Review Council.

11. "Discharge piping" means ~~that~~ the portion of the circulation system ~~which~~ that carries water from the filter back to the swimming pool or spa.

ADEQ made these editorial changes in response to staff comments from the Governor's Regulatory Review Council. According to the rule drafting style manual published by the Office of the Secretary of State, the word, "that," is ordinarily used to introduce essential clauses, not "which."

12. "Diving area" means the area of a public or semipublic swimming pool that is designated for diving from a diving board, diving platform, or ~~a~~ starting block.

ADEQ made this editorial change in response to a staff comment from the Governor's Regulatory Review Council and to make the rule more concise.

~~14. "Diving board" means a recreational mechanism for entering a swimming pool, consisting of a semirigid board that derives its elasticity through the use of a fulcrum mounted below the board.~~

ADEQ deleted this definition in response to a staff comment from the Governor's Regulatory Review Council. It is unnecessary to define commonly understood terms in a definition section.

~~15-16. The definitions of "fill-and-draw swimming pool or spa" and "filtration rate" were renumbered to 13-14.~~

~~17. "Floor" means the interior bottom surface of a swimming pool or spa.~~

ADEQ deleted this definition in response to a staff comment from the Governor's Regulatory Review Council. It is unnecessary to define commonly understood terms in a definition section.

~~18~~ 15. “Flow-through swimming pool or spa” means a swimming pool or spa where new water enters the swimming pool or spa ~~and to replace~~ an equal quantity of water that constantly flows out ~~of the swimming pool or spa~~.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised rule is more concise and understandable.

~~19~~ 16. “Freeboard” means that the vertical wall section of ~~the a~~ swimming pool or spa wall ~~measured vertically~~ between the waterline and the ~~walkway or~~ deck surface.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council.

ADEQ made the editorial changes to make the definition more concise and understandable.

~~20~~ 17. “Hose bibb” means a faucet with a threaded nozzle ~~that bends downward~~ to which a hose may be attached.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council.

ADEQ agrees that the highlighted language is unnecessary.

~~21~~ 18. “Hydrotherapy jet” means a fitting ~~which that~~ blends air and water and creates a high-velocity, turbulent stream of air-enriched water for injection into a spa. ~~A hydrotherapy jet system is activated by a booster pump system which is completely independent of the water circulation system for a spa.~~

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council.

ADEQ deleted the second sentence in the definition to make it more consistent with the definition of “hydrotherapy jet” that is published in the National Spa and Pool Institute glossary of industry terms published in the American National Standard for Public Spas [ANSI / NSPI-2 1992].

~~22. “Ladder” means a series of vertically separated treads or rungs connected by vertical rail members or independently fastened to a vertical swimming pool or spa wall.~~

ADEQ deleted this definition in response to a staff comment from the Governor’s Regulatory Review Council.

ADEQ deleted the definition because it is not necessary to define commonly understood terms in a definition section.

~~23~~ 19. “Make-up water” means fresh water ~~that is~~ used to fill or refill a swimming pool or spa.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council and to make the definition more concise.

20. “Maximum bathing load” means the design capacity or the maximum number of users that a public or semipublic swimming pool or spa is designed to hold.

This term is used in R18-5-208. ADEQ added the definition to clarify the meaning of the rule.

~~24~~ 21. “Natural bathing place” means ~~an outdoor~~ a lake, pond, river, stream, swimming hole, or hot springs which has not been ~~improved or~~ modified by man.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council and to make the definition more concise.

~~25~~ ADEQ renumbered the definition of “operate” to 22.

~~26~~ 23. “Overflow collection system” means ~~the~~ equipment ~~and devices for the removal of~~ designed to remove water from a swimming pool or spa, including gutters, ~~and other rim type~~ overflows, surface skimmers, and other surface water collection systems of various designs and manufacture.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is consistent with the definition of “overflow system” in the glossary of industry terms published in the American National Standard for Public Swimming Pools [ANSI / NSPI-1 1991].

~~27~~. ADEQ renumbered the definition of “potable water” to 24.

~~28~~ 25. “Private residential spa” means a spa at a private residence, ~~the use of which is limited to~~ used only by the owner, members of the owner's family, ~~or and~~ invited guests, ~~of the owner of the residence~~ or a spa ~~which~~ that serves a housing group consisting of no more than ~~three~~ 3 living units [e.g., duplexes or triplexes].

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise. ADEQ replaced the number word, “three” with the Arabic numeral, “3,” to be more consistent with the rule drafting style manual published by the Office of the Secretary of State.

~~29~~ 26. “Private residential swimming pool” means a swimming pool at a private residence, ~~the use of which is limited to~~ used only by the owner, members of the owner's family, ~~or and~~ invited guests ~~of the owner of the residence~~, or a swimming pool ~~which~~ that serves a housing group consisting of no more than ~~three~~ 3 living

units [e.g., duplexes or triplexes].

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The revised definition is more concise and more consistent with the rule drafting style manual published by the Office of the Secretary of State.

~~30~~ 27. "Public spa" means a spa, ~~admission to which may be gained by members of that is open to~~ the public with or without ~~the payment of~~ a fee, including ~~any a~~ a spa that is operated by a county, municipality, political subdivision, school district, university, college, ~~and any or a~~ commercial establishment ~~that is open to members of the public were the whose~~ primary business ~~of the establishment~~ is the operation of a spa.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council and to make the rule more concise.

~~31~~ 28. "Public swimming pool" means a swimming pool, ~~admission to which may be gained by members of that is open to~~ the public with or without ~~the payment of~~ a fee, including ~~any a~~ a swimming pool that is operated by a county, municipality, political subdivision, school district, university, college, ~~and any or a~~ commercial establishment ~~that is open to members of the public where the whose~~ primary business ~~of the establishment~~ is the operation of a swimming pool.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council and to make the rule more concise.

~~32~~. ADEQ renumbered the definition of "recessed treads" to 29.

~~33~~ 30. "Return inlet" means ~~the an~~ aperture or fitting through which filtered water returns ~~into to~~ a swimming pool or spa ~~which is on the discharge side of the pump~~.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council and to make the rule more concise.

~~34~~ 31. "Rope and float line" means a continuous line not less than ~~three-fourths inch [3/4"]~~ 3/4 inch in diameter ~~which that~~ is supported by buoys and ~~is~~ attached to opposite sides of a swimming pool to separate areas of the swimming pool.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council.

ADEQ replaced fraction words with Arabic numerals and changed "which" to "that" to make the rule more

consistent with the rule drafting style manual published by the Office of the Secretary of State.

35 32. “Semiartificial bathing place” means a natural bathing place that has been modified ~~or improved~~ by man.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The words, “or improved,” are unnecessary. Their elimination makes the revised definition more concise.

36 33. “Semipublic spa” means a spa ~~that is~~ operated ~~solely for and in conjunction with~~ for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks, or similar establishments, ~~including any.~~ A semipublic spa includes a spa that is operated by a neighborhood or community association ~~which is open to~~ for the residents of the community and their guests ~~but which is not open to members of the public~~ and any spa at a country club, health club, camp, or similar establishment where the primary business of the establishment is not the operation of a spa and where the use of the spa is included in the fee ~~or consideration paid or given~~ for the primary use of the premises establishment.

ADEQ made editorial changes to this definition in response to staff comments from the Governor’s Regulatory Review Council. The revised definition is more concise.

37 34. “Semipublic swimming pool” means a swimming pool ~~that is~~ operated ~~solely for and in conjunction with~~ for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks, or similar establishments, ~~including any.~~ A semipublic swimming pool includes a swimming pool that is operated by a neighborhood or community association ~~which is open to~~ for the residents of the community and their guests ~~but which is not open to members of the public~~ and ~~any~~ a swimming pool at a country club, health club, camp, or similar establishment where the primary business of the establishment is not the operation of a swimming pool and where the use of the swimming pool is included in the fee ~~or consideration paid or given~~ for the primary use of the premises establishment.

ADEQ made editorial changes to this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise.

38 35. “Shallow area” means ~~any~~ the portion of a public or semipublic swimming pool that is ~~five~~ 5 feet or less in

depth.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The use of Arabic numerals instead of number words is more consistent with the rule drafting style manual of the Office of the Secretary of State.

~~39~~ 36. "Slip-resistant" means a surface ~~which~~ that has a static coefficient of friction [wet or dry] of at least 0.50.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The use of "that" instead of "which" to introduce essential clauses is recommended in the rule drafting style manual of the Office of the Secretary of State.

~~40~~ 37. "Spa" means an artificial basin, chamber, or tank of irregular or geometric shell design ~~which~~ that is intended ~~to be used~~ only for bathing or soaking only and ~~which~~ that is not drained, cleaned, or refilled for each ~~individual~~ user. A spa may include features such as hydrotherapy jet circulation, hot water, cold water mineral baths, or an air induction system. Industry terminology for a spa includes ~~, but is not limited to;~~ "hydrotherapy pool," "whirlpool," "hot tub," and "therapy pool."

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The proposed definition of "spa" is a combination of the definitions for "spa" and "hydrotherapy spa" found in the National Spa and Pool Institute glossary of industry terms published in the most recent American National Standard for Public Spas [ANSI / NSPI-2 1992]. ADEQ revised the definition to make it more concise. The use of "that" instead of "which" to introduce essential clauses is recommended in the rule drafting style manual of the Office of the Secretary of State. The phrase, "but is not limited to" is jargon which should be eliminated from rules.

~~41~~ 38. "Special use pool" means ~~an artificial basin, chamber, or tank that is a swimming pool~~ intended ~~to be used~~ for competitive aquatic events, ~~an~~ aquatic exercise ~~pool, a lap pool, or lap swimming.~~ A special use pool includes a wave action pool, ~~an~~ exit pool for a water slide, ~~any~~ swimming pool that is part of an attraction

at a water recreation park, ~~a~~ water volleyball pool, or a swimming pool with special features used for ~~scuba~~ training and instruction.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council.

ADEQ revised the definition to make it more clear and understandable. ADEQ also deleted the word, "scuba," to broaden the definition of a special use pool. There may be other types of special use pools which are used for training and instruction other than for scuba training and instruction.

~~42. "Steps" means a riser / tread or series of risers / treads extending down from the deck and terminating at the floor of the swimming pool or spa.~~

ADEQ deleted this definition in response to a staff comment from the Governor's Regulatory Review Council. It is unnecessary to define commonly understood terms in the definition section.

~~43~~ 39. "Suction outlet" means the aperture or fitting through which water is withdrawn from a swimming pool or spa ~~on the suction side of the pump.~~

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The phrase, "on the suction side of the pump," is unnecessary and can be eliminated. The revised definition is more concise.

~~44~~ 40. "Suction piping" means ~~that portion of~~ the water circulation system piping ~~which that~~ carries water from a swimming pool or spa to the filter.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council.

ADEQ revised the definition to make it more concise. The use of "that" instead of "which" to introduce essential clauses is recommended in the rule drafting style manual of the Office of the Secretary of State.

~~45~~ 41. "Swimming pool" means an artificial basin, chamber, or tank ~~which is constructed and used or intended to be used~~ that is designed for swimming or diving.

ADEQ revised this definition in response to a staff comment from the Governor's Regulatory Review Council. The revised definition is more concise

~~46~~ 42. “Turnover rate” means the ~~period of time in hours~~ number of hours required to circulate a volume of water equal to the capacity of the swimming pool or spa.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise.

~~47~~ 43. “User” means ~~any a person using who uses~~ a swimming pool ~~or~~, spa, or adjoining deck area.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise.

~~48~~ 44. “Wading pool” means ~~an artificial basin, chamber, or tank which is intended to be used by small children for bathing or wading~~ a shallow swimming pool used for bathing and wading by small children.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise.

~~49~~ 45. “Water circulation system” means an arrangement of mechanical equipment ~~or components connected by piping connected~~ to a swimming pool or spa by piping in a closed loop, ~~to direct that directs~~ water from the swimming pool or spa ~~and cause it to flow through the water circulation system components for the purpose of filtering, disinfecting, and returning to the filtration and disinfection equipment and returns~~ the water ~~back~~ to the swimming pool or spa.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise.

~~50~~ 46. “Water circulation system components” means the mechanical components ~~which that~~ are part of a water circulation system of a swimming pool or spa. ~~Water circulation system components include, but are not limited to; including~~ pumps, filters, valves, surface skimmers, ion generators, electrolytic chlorine generators, ozone process equipment, and chemical feeding equipment.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council.

ADEQ replaced the phrase, "include, but are not limited to...." with a single word, "including." The revised definition does not contain jargon and is more concise.

~~51~~ 47. “Water level” ~~is defined as one of the following~~ means either:

1. On swimming pools and spas with skimmer systems, ~~the water level means~~ the midpoint of the operating range of the skimmers, or
2. On swimming pools and spas with overflow gutters, ~~the water level means~~ the height of the overflow rim of the gutter.

ADEQ revised this definition in response to a staff comment from the Governor’s Regulatory Review Council. The revised definition is more concise. ADEQ also renumbered the definitions in the section.

R18-5-202. Applicability

- A. ~~The rules in this~~ This Article ~~apply~~ applies to public and semipublic swimming pools and spas.
- B. ~~The rules in this~~ This Article ~~do~~ does not apply to the following:
 1. A private residential swimming pool or spa,
 2. A swimming pool or spa ~~that is~~ used for medical treatment or physical therapy ~~which is~~ and supervised by licensed medical personnel,
 3. A semi-artificial bathing place,
 4. A natural bathing place, or
 5. An artificial lake.

ADEQ made editorial changes to this section in response to staff comments from the Governor’s Regulatory Review Council. The revised section is more concise.

R18-5-203. Approval to Construct Design Approval

- A. ~~The following persons are required to~~ A person shall obtain ~~an Approval to Construct design approval from the Department~~ before ~~any starting~~ construction of ~~a public or semipublic swimming pool or spa is undertaken~~:
 1. ~~Any person who wants to construct a~~ A new public or semipublic swimming pool or spa;
 2. ~~Any person who wants to modify~~ A major modification to an existing public or semipublic swimming pool or spa ~~in a way which requires a change to Department-approved plans and~~

~~specifications. For purposes of this subsection, a major modification means a change to the shape, depth, water circulation system, or disinfection system of a public or semipublic swimming pool or spa, or the installation of diving equipment at a public or semipublic swimming pool;~~

3. ~~The owner of a semipublic swimming pool who wishes to change its use to a public swimming pool~~ A change in use from a semipublic public swimming pool to a public swimming pool ; and
4. ~~The owner of a private residential swimming pool who wishes to change its use to a public or semipublic swimming pool~~ A change in use from a private residential swimming pool to a semipublic or a public swimming pool.

ADEQ amended this subsection in response to staff comments from the Governor's Regulatory Review Council.

ADEQ changed the phrase, "Approval to Construct" to "design approval" to avoid the confusion that may be created by using the similar phrases, "Approval to Construct" and "Approval of Construction." ADEQ also changed passive verb forms to active voice. Finally, ADEQ defined the types of major modifications to existing swimming pools and spas that trigger design approval requirements.

- B. ~~The application for an Approval to Construct shall be submitted to the Department in quadruplicate on forms furnished by the Department. The application shall be accompanied by four~~ An applicant for a design approval shall submit an ADEQ application form to the Department in quadruplicate with 4 complete sets of plans and specifications for the swimming pool or spa and the information in subsection (C).

ADEQ amended subsection B in response to a staff comment from the Governor's Regulatory Review Council.

ADEQ revised the rule to refer to "design approval" instead of "Approval to Construct," change passive verb forms to the active voice, and make the rule more concise.

- C. ~~An~~ The application for ~~an Approval to Construct~~ design approval shall include 4 copies of the following documents:

1. A general plot plan;
2. Plans and specifications showing the size, shape, cross-section, slope, and dimensions of each swimming pool or spa, ~~adjacent~~ deck ~~areas~~ area, and barriers;
3. Plans and specifications showing the water circulation and disinfection systems, including all

pipings, fittings, drains, suction outlets, filters, pumps, surface skimmers, return inlets, chemical feeders, disinfection equipment, gauges, flow meters, and strainers;

4. Plans and specifications showing the source of water supply and the method of disposal of filter backwash water, ~~and~~ used swimming pool or spa water ~~when the swimming pool or spa is drained~~, and wastewater from toilets, urinals, sinks, and showers;
5. Detailed plans of bathhouses, dressing rooms, equipment rooms, and other appurtenances ~~including the method of disposal for wastewater; and~~

ADEQ consolidated language from paragraph (5) into paragraph (4) so one paragraph addresses the disposal of filter backwash water, used swimming pool or spa water, and wastewater.

6. Additional data ~~as may be~~ required by the Department for a complete understanding of the project.
- D. ~~All plans and specifications submitted to the Department for review shall be prepared by, or under the supervision of, a professional engineer or architect who is currently registered in Arizona, or a swimming pool or spa contractor with an A-9 or A-19 license who is licensed to practice in Arizona. A professional engineer, architect, or a swimming pool or spa contractor with a current Arizona A-9, A-19, KA-5, or KA-6 license shall prepare or supervise the preparation of all plans and specifications submitted to the Department for review.~~

ADEQ revised this subsection in response to staff comments from the Governor's Regulatory Review Council, changing passive verb forms to active voice. ADEQ added the KA-5 and KA-6 license categories to this subsection. The Registrar of Contractors recently revised its rules and recognized these new license categories. The KA-5 and KA-6 licenses are dual commercial and residential licenses for swimming pool and spa contractors.

- E. An applicant shall submit an application for ~~an Approval to Construct shall be submitted~~ design approval to the Department at least 60 days prior to the date that the applicant wishes to begin construction of ~~the a~~ swimming pool or spa.

ADEQ revised subsection in response to a staff comment from the Governor's Regulatory Review Council. ADEQ changed passive verb forms to the active voice and replaced "Approval to Construct" with "design approval."

- F. The Department shall determine whether the application for ~~an Approval to Construct~~ design approval is

complete within 30 days of the date of ~~submittal~~ receipt of the application by the Department. ~~The Department shall issue a written notice to the applicant that the application for an Approval to Construct is complete or a letter which identifies specific information deficiencies in the application form, design plans, or specifications. If the Department issues a deficiency letter within 30 days of the date of the submittal of the application for an Approval to Construct, then the time frame for making a determination of administrative completeness is suspended until the Department receives the information identified in the deficiency letter.~~

ADEQ revised subsection (F) by changing references to "Approval to Construct" to "design approval." ADEQ clarified that the time frame for determining whether an application for design approval is complete begins to run from the date of receipt of the application by the Department, not the date of "submittal." This avoids the potential for confusion over when an application is submitted when an applicant mails the application to the Department. ADEQ also struck the sentences in subsection (F) which refer to the process for making a determination of administrative completeness. ADEQ struck references to notices of administrative completeness, notices of deficiency, and the suspension of the administrative review time frame if a notice of deficiency is issued by the Department. The language of these proposed rules was based on A.R.S. §41-1074, a licensing time frame statute which addresses compliance with the administrative completeness review time frame. ADEQ eliminated this language because the public and semipublic swimming pool and spa rules are not intended to implement the licensing time frame statutes. ADEQ is developing a separate rule package to implement licensing time frames on an agency-wide basis. ADEQ expects to have final licensing time frames rules in place that implement licensing time frames by December 31, 1998.

- G. The Department shall issue or deny the application for ~~an Approval to Construct~~ design approval within 30 days of the date that the Department determines that the application for ~~an Approval to Construct~~ design approval is complete. ~~The Department shall issue an Approval to Construct if the proposed swimming pool or spa complies with the rules prescribed in this Article. The Department may issue an Approval to Construct with conditions. The Department may make one written request for additional information during the 30-day time frame for substantive review of the complete application for an Approval to Construct. If the Department makes a written request for additional information during the substantive~~

~~review time frame, then the 30-day time frame for making a final determination on the application is suspended from the date the written request is issued until the date that the Department receives the additional information from the applicant. The Department and the applicant may mutually agree, in writing, to allow supplemental requests for additional information during the substantive review time frame.~~

ADEQ revised subsection (G) by changing references to "Approval to Construct" to "design approval." ADEQ relocated the provision which relates to the issuance of a design approval with conditions to subsection (I). ADEQ also struck the sentences in subsection (G) which refer to the substantive review process, including references to requests for additional information during the substantive review time frame, suspension of the substantive review time frame, and agreements to permit supplemental requests for additional information. The language of these proposed rules was based on A.R.S. §41-1075, a licensing time frame statute which addresses compliance with the substantive review time frame. ADEQ eliminated this language because the public and semipublic swimming pool and spa rules are not intended to implement the licensing time frame statutes. ADEQ is developing a separate rule package to implement licensing time frames on an agency-wide basis. ADEQ expects to have final rules in place that implement licensing time frames by December 31, 1998.

H. ~~If construction is not started within one year after the date of the issuance of the Approval to Construct, or if there is a halt in construction of more than one year, then an Approval to Construct is void, unless an extension of time is granted in writing by the Department~~ Unless an extension of time is granted in writing by the Department, a design approval is void if construction is not started within 1 year after the date of its issuance or there is a halt in construction of more than 1 year.

ADEQ revised subsection H to refer to design approvals and to be more concise.

- I. The Department may issue a design approval with conditions. The Department shall not issue an Approval of Construction if the design approval is conditioned and the construction of the swimming pool or spa does not comply with the stated conditions.

ADEQ revised this subsection to clarify that an Approval of Construction will not be issued if conditions in a design approval are not met. The owner of a public or semipublic swimming pool or spa cannot operate a public or semipublic swimming pool or spa without obtaining an Approval of Construction from ADEQ.

- J. The Department may issue design approvals in phases to allow a political subdivision to start construction of a public swimming pool or spa without issuing a design approval for the entire construction project. A design approval may be issued in phases provided all of the following conditions are met:

1. A phased design approval is needed to accommodate a design / build contract, phased construction contract, multiple construction contracts, turnkey contract, or special contract that requires construction to begin prior to the completion of design plans and specifications for the entire public swimming pool or spa construction project.
2. The applicant submits a detailed project description for the entire public swimming pool or spa construction project to the Department.
3. There is a written agreement between the applicant and the Department that includes the following:
 - a. A construction project schedule,
 - b. A schedule to submit applications and supporting documentation for the phased design approval including any anticipated variance requests,
 - c. Negotiated time frames for administrative completeness and substantive review of each application for phased design approval, and
 - d. A schedule of construction inspections by the Department or third party certifications by the applicant.
4. The applicant certifies in writing that the applicant understands that the public swimming pool or spa cannot be operated without an Approval of Construction for each phase of the construction project pursuant to R18-5-204.

5. If the applicant and the Department cannot reach agreement regarding a phased design approval or Approval of Construction, then the requirements of R18-5-203(A) through (I) and R18-5-204 apply.

ADEQ added a subsection to authorize phased design approvals and Approvals of Construction of public swimming pools. This subsection was added in response to a public comment requesting phased design approvals.

R18-5-204. Approval of Construction

- A. A public or semipublic swimming pool or spa shall not operate without receiving an Approval of Construction issued by the Department.
- B. The construction of a public or semipublic swimming pool or spa shall conform to plans and specifications that have been approved by the Department. ~~If it is necessary or desirable to make any~~ the applicant wishes to make a change ~~in to~~ the approved plans and specifications, ~~then~~ the applicant shall submit revised plans and specifications with a written statement of the reasons for the change to the Department. The applicant shall obtain Department approval of the revised plans and specifications ~~shall be obtained~~ before starting any work affected by the change ~~is undertaken~~.

ADEQ revised this subsection in response to staff comments from the Governor's Regulatory Review Council.

ADEQ changed passive verbs to active verbs and eliminated unnecessary language to make the rule more concise.

- C. ~~The owner of a public or semipublic swimming pool or spa shall notify the Department prior~~ Prior to any construction ~~which that~~ will cover the piping arrangement of the swimming pool or spa and at least 30 days prior to the expected date of completion of construction of a public swimming pool or spa, the applicant shall notify the Department to permit ~~an a construction~~ inspection. ~~An inspector from the Department may conduct an inspection~~ The Department shall inspect the construction of a swimming pool or spa to determine ~~whether if~~ the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions. ~~In lieu of a construction inspection by the Department, a~~ unless a professional engineer, architect, or registered sanitarian, ~~who is currently registered in Arizona,~~ may certify certifies that the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions.

ADEQ revised this subsection in response to staff comments from the Governor's Regulatory Review Council.

ADEQ changed the word, "may," to "shall." ADEQ changed discretionary construction inspections by the Department to mandatory ones except where a professional engineer, architect, or a registered sanitarian certifies that the swimming pool or spa construction complies with the Department-approved design plans, specifications, and conditions.

- D. If the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions. ~~The~~ the Department shall issue ~~an~~ the Approval of Construction within 30 days of the date of the construction inspection by the Department or the date ~~of receipt of the Department receives~~ third party certification ~~if the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions.~~

ADEQ revised subsection D in response to staff comments from the Governor's Regulatory Review Council. ADEQ eliminated unnecessary language and changed sentence order to make the rules more clear and understandable.

R18-5-205. Prohibitions

No changes.

R18-5-206. Water Source

No changes.

R18-5-207. ~~Materials of construction~~ Construction Materials

- A. A public or semipublic swimming pool or spa shall be constructed of concrete or other structurally rigid material ~~which~~ that is equivalent in strength or durability to concrete, except that a public or semipublic spa may be constructed of fiberglass or acrylic.
- B. A public or semipublic swimming pool or spa shall be constructed of materials ~~which~~ that are nontoxic.
- C. A public or semipublic swimming pool or spa shall be constructed of waterproof materials ~~which~~ that provide a watertight structure.
- D. A public or semipublic swimming pool or spa shall have a smooth and easily cleaned surface, without cracks or joints, excluding structural joints, or to which a smooth, easily cleaned surface finish is applied or attached.
- E. All corners in a public or semipublic swimming pool or spa shall be rounded, including the corners formed

by the intersection of ~~walls~~ a wall and floor.

- F. ~~The surfaces~~ A surface within a public or semipublic swimming pool or spa ~~that are~~ intended to provide footing for users shall ~~be designed to provide~~ have a slip-resistant surface. The roughness or irregularity of ~~such surfaces~~ the surface shall not cause injury or discomfort to users' feet during normal use.
- G. ~~The colors, patterns, or finishes~~ color, pattern, or finish of the interior of a public or semipublic swimming pool or spa shall not obscure ~~the existence or presence of~~ objects, ~~or~~ surfaces within the swimming pool or spa, ~~or the presence of~~ debris, sediment, or algae. Surface finishes shall be ~~either~~ white, pastel, or other light color. The interior finish shall completely line the swimming pool or spa to the coping, tile, or ~~the~~ gutter system.

ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council. ADEQ changed plural nouns to singular nouns, "which" to "that," and eliminated unnecessary language.

R18-5-208. Maximum Bathing Load

- A. The maximum bathing load for a public or semipublic swimming pool or spa shall not be exceeded.
- ~~A B.~~ The maximum bathing load for a public or semipublic swimming pool shall be calculated as the sum of the following:
1. ~~A minimum of 10 square feet of swimming pool surface area per user shall be provided in the shallow area;~~ The shallow area of the swimming pool in square feet ÷ 10 square feet, +
 2. ~~A minimum of 24 square feet of swimming pool surface area per user in the deep area [not including the diving area];~~ The deep area of the swimming pool in square feet - 300 square feet for each diving board ÷ 24 square feet.
 3. ~~A minimum of 300 square feet of a swimming pool surface area shall be provided for each diving board. This reserved area shall not be included in determining the swimming pool surface area per user in the deep area.~~
- B C. ~~In lieu of the maximum bathing load prescribed in R18-5-208(A), the~~ The maximum bathing load for a public swimming pool ~~may shall~~ be limited by the number of users for the toilets, showers, or lavatories that are provided in the bathhouses or dressing rooms as prescribed by R18-5-242.

~~E.D.~~ The maximum bathing load for a public or semipublic spa shall ~~be calculated so that a minimum of nine square feet of surface area are provided for each user~~ not exceed the area of the spa in square feet ÷ nine square feet.

~~D.E.~~ The maximum bathing load for a public or semipublic swimming pool or spa shall be posted.

*ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council and to make the rule more clear and understandable. ADEQ added subsection A to make it illegal to exceed the maximum bathing load for a public or semipublic swimming pool or spa. ADEQ rewrote subsection (A) to clarify the formula for calculating the maximum bathing load. The maximum number of users of a public or semipublic swimming pool or spa is based upon the surface area of the swimming pool or spa. ADEQ revised subsection B which provided an alternative method for calculating the maximum bathing load for a public swimming pool based on the number of toilets, showers, and lavatories in the dressing rooms. The revised subsection (B) clarifies that the number of toilets, showers, and lavatories that are provided in the dressing rooms operate to **limit** the maximum bathing load for a public swimming pool.*

R18-5-209. Shape

- A. ~~No limits are specified for the shape of a~~ A public or semipublic swimming pool or spa may be any shape except that ~~consideration shall be given to shape during the design of~~ the designer shall shape a public or semipublic swimming pool or spa to minimize hazards to users and ~~to~~ provide adequate circulation of swimming pool or spa water.
- B. There shall be no protrusions, extensions, means of entanglement, or other obstructions in a public or semipublic swimming pool or spa ~~which can~~ that may cause ~~the~~ entrapment of or injury ~~of~~ to the user.

This subsection ~~shall not be construed to~~ does not prohibit water features such as water fountains, slides, water play equipment, or water volleyball and basketball nets.

~~C. The average width of a public or semipublic swimming pool shall not be less than 14 feet. The average width shall be calculated by dividing the surface area of the swimming pool by its maximum length [See Appendix B]. Circular pools that are a minimum of fourteen feet in diameter may be approved by the Department.~~

ADEQ revised subsections A and B in response to staff comments from the Governor's Regulatory Review Council and to make the rule more clear and understandable. ADEQ repealed the subsection on average width of a public or semipublic swimming pool because it is inconsistent with subsection A which states that no limits are specified for the shape of a public or semipublic swimming pool. Also, the voluntary national standards for public and semipublic swimming pools published by the American National Standards Institute / National Spa and Pool Institute do not prescribe an average width requirement.

R18-5-210. Walls

A. ~~Walls shall not be greater than 11° from plumb for a minimum depth of 3 feet from the waterline in the deep area or 2 feet from the waterline in the shallow area of a public or semipublic swimming pool. In a public swimming pool where~~ Where a racing lane terminates in a swimming pool, the wall shall be plumb to a minimum depth of 5 feet below the waterline. Below ~~these depths, the 5-foot depth~~ the wall ~~may~~ shall be radiused to join the floor.

ADEQ eliminated the wall plumb tolerance requirement because of the practical difficulty of ADEQ inspectors determining compliance with the requirement during a construction inspection.

B. ~~No~~ There shall be no projections from a swimming pool or spa wall ~~are allowed~~ except for coping, cantilevered deck, ladders, and steps.

C. ~~Underwater seats, when provided;~~ An underwater seat shall comply with the following:

1. The edges of an underwater seat shall be outlined with a sharply contrasting colored tile or other material ~~which that~~ is clearly visible from the deck adjacent to the underwater ~~bench seat~~;
2. An underwater seat shall have a slip-resistant surface;

3. ~~An underwater seat in a public or semipublic swimming pool shall be completely recessed into the swimming pool wall. An underwater seat shall be located outside of the deep area of a swimming pool that is equipped for diving. An underwater seat may be located in the deep area of a swimming pool that is not equipped for diving provided the underwater seat is either completely recessed into the swimming pool wall, shaped to be compatible with the shape of the swimming pool wall, or in a corner of the swimming pool;~~

ADEQ revised the subsection on underwater seats in response to staff comments from the Governor's Regulatory Review Council. Also, the revised rule is more consistent with voluntary national standards for underwater seats that are published by American National Standards Institute / National Spa and Pool Institute.

4. The maximum depth of an underwater seat is 24 inches below the waterline. The minimum depth of an underwater seat is 12 inches below the waterline; ~~and~~
5. The maximum width of an underwater seat is 20 inches.
- D. ~~Where If~~ a spa is located immediately adjacent to a swimming pool, the separating wall between the spa and the swimming pool shall be no more than 8 inches ~~in-width wide~~. The top of the separating wall shall be no lower than the level of the coping of the swimming pool. If a separating wall is more than 8 inches ~~in-width wide~~, then the ~~minimum required~~ deck width ~~prescribed in shall comply with~~ R18-5-217(D) ~~shall be maintained~~. A spa shall not be located immediately adjacent to the deep area of a swimming pool.
- E. Coping or cantilevered deck may project from a swimming pool or spa wall to provide a handhold for users. ~~Where provided, the~~ The coping or deck ~~must shall~~ be rounded, have a slip-resistant surface finish, and shall not exceed 3½ inches in thickness. The overhang of the coping or deck shall not exceed 2 inches ~~nor or~~ be less than 1 inch. All corners created by coping or cantilevered deck shall be rounded in both the vertical and horizontal dimensions to eliminate sharp corners.

R18-5-211. Freeboard

- A. The freeboard in a public or semipublic swimming pool or spa shall not exceed 8 inches, except as provided in subsection (B).
- B. The freeboard in a semipublic swimming pool may ~~be increased~~ exceed 8 inches to provide for walls, terraces, or other design features, ~~provided all of the following requirements are met~~. The Department shall review each request to allow an increase in freeboard on a case-by-case basis. In reviewing the request, the Department shall consider safety, exit distances, alternative exits, and location. The length and height of the section where the freeboard area may be increased is limited. All of the following requirements shall be met:
1. Guard rails or ~~other~~ similar devices are provided to prevent any raised area from being used as a diving platform.
 2. The vertical surfaces of ~~raised areas~~ the freeboard area are constructed of inorganic materials. All vertical surfaces shall be rigid, smooth, and easily cleanable.
 3. The horizontal surface areas comply with the provisions of this Article for decks.
 4. The vertical surface area is included as surface area of the swimming pool ~~for determining to~~ determine the type, size, location, and numbers of equipment and piping.
 5. ~~The length and height of the section where freeboard may be increased is limited. The Department shall review each request to allow an increase in freeboard on a case-by-case basis. In reviewing the request, the Department shall consider safety, exit distances, alternative exits, and location.~~

ADEQ revised this subsection in response to staff comments from the Governor's Regulatory Review Council.

ADEQ made editorial changes to make the rule more clear, concise, and understandable.

R18-5-212. Floors

- A. The slope of the floor of a public or semipublic swimming pool, from the end wall in the shallow area towards the deep area to the point of the first slope change shall be uniform and shall not exceed 1 foot of fall in ~~12~~ 10 feet. ~~The slope of the floor of a semipublic swimming pool, from the end wall in the shallow area towards the deep area to the point of the first slope change, shall be uniform and shall not exceed 1~~

~~foot of fall in 10 feet.~~ The floor slope ~~of the floor~~ in a public or semipublic spa shall not exceed ~~one~~ 1 foot of fall in 10 feet.

ADEQ revised this subsection to be consistent with current Maricopa and Pima county ordinances on floor slopes for public and semipublic swimming pools.

- B. The floor slope ~~of the floor~~ of a public or semipublic swimming pool, from the point of the first slope change to the ~~deep~~ deepest part of the swimming pool, ~~shall be uniform and~~ shall not exceed 1 foot of fall in ~~2~~ 3 feet ~~in a swimming pool that is equipped for diving. The slope of the floor from the point of the first slope change to the deepest part of the swimming pool shall be uniform and shall not exceed 1 foot of fall in 3 feet in a public or semipublic swimming pool that is not equipped for diving.~~

ADEQ revised this subsection to be consistent with voluntary national standards regarding floor slopes from the point of the first slope change to the deepest part of a swimming pool. A slope of 1 foot of fall in 2 feet may be dangerous to persons who dive into the pool from a diving board because the steep angle of the upslope may act as a wall. Also, the steep angle of fall from the breakpoint may be too steep to walk upon safely.

- C. For a public or semipublic swimming pool that is equipped for diving, the depth of the swimming pool at the point of the first slope change shall be a minimum of 5 feet. For a public or semipublic swimming pool that is not equipped for diving, the depth of the swimming pool at the point of the first slope change shall be a minimum of 4 feet.
- D. All portions of a swimming pool or spa floor shall slope towards a main drain.
- E. The transitional radius where the floor of a public or semipublic swimming pool joins a wall shall comply with the following:
1. The center of the radius shall ~~have its center~~ be no less than 3 feet below the waterline in the deep area or 2 feet below the waterline in the shallow area.
 2. The radius shall be tangent at the point where the radius ~~either~~ meets the wall or floor.
 3. The radius shall be ~~at least~~ equal to or greater than the depth of the swimming pool minus the vertical wall depth measured from the waterline minus 3 inches.

R18-5-213. Entries and Exits

- A. Each public or semipublic swimming pool shall have at least 2 means of entry or exit. ~~These shall consist~~ consisting of ladders, steps, or recessed treads ~~and may be used in combination.~~
- B. There shall be at least one 1 ladder, set of steps, or set of recessed treads for each 75 feet of perimeter of a public or semipublic swimming pool or spa.
- C. At least one 1 means of entry and exit shall be provided in the deep area and at least one 1 means of entry and exit shall be provided in the shallow area of a public or semipublic swimming pool. Where the water depth is 2 feet at the swimming pool wall in the shallow area or where there is a zero depth entry pool [e.g., an artificial beach], ~~such the~~ area shall be considered ~~as providing~~ a means of entry or exit.
- D. A set of steps shall be provided in a public or semipublic spa.
- E. ~~Stairs; The location of stairs,~~ ladders, and recessed treads shall ~~be located so as not to~~ not interfere with racing lanes.

ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council. ADEQ changed number words to Arabic numerals, changed verbs from passive voice to active voice, and eliminated unnecessary verbiage.

R18-5-214. Steps

- A. Each set of steps shall be provided with at least one 1 handrail to serve all treads and risers. Handrails shall be provided at one 1 side or in the center of all steps. Handrails shall be installed in such a way that they can be removed only with tools.
- B. Steps shall be permanently marked ~~so as~~ to be clearly visible from above and below the water level in a swimming pool or spa. The edges of steps shall be outlined with a sharply contrasting colored tile or other material ~~which that~~ is clearly visible from the deck adjacent to the steps.
- C. Steps may be constructed only in the shallow area of a public or semipublic swimming pool.
- D. Steps shall not project into a public or semipublic swimming pool or spa in a manner ~~which that~~ creates a hazard to users.
- E. All tread surfaces on steps shall have slip-resistant surfaces.
- F. Step treads shall have a minimum unobstructed horizontal depth of 10 inches. Risers shall have a

maximum uniform height of 12 inches, with the bottom riser height allowed to vary ~~plus or minus 2 inches~~
~~[$\pm 2"$]~~ ± 2 inches from the uniform riser height.

ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council. ADEQ changed number words to Arabic numerals and changed "which" to "that" to be more consistent with the rule drafting style manual of the Office of the Secretary of State.

R18-5-215. Ladders

- A. At least ~~one~~ 1 ladder shall be provided in the deep area of a public or semipublic swimming pool. ~~Where the If the width of the~~ deep area of a ~~public or semipublic~~ swimming pool is greater than 20 feet ~~in width,~~ two ladders shall be located on opposite sides of the deep area; ~~are required.~~
- B. A swimming pool or spa ladder shall be equipped with ~~two~~ 2 handrails.
- C. All treads on ladders shall have slip-resistant surfaces.
- D. Ladder treads shall have a minimum horizontal depth of ~~one and one half inches [$1\frac{1}{2}"$]~~ $1\frac{1}{2}$ inches. ~~There shall be a uniform height between ladder treads with a 7 inch minimum distance and a 12 inch maximum distance. The distance between ladder treads shall range from a minimum of 7 inches to a maximum of 12 inches.~~
- E. Below the waterline, there shall be a clearance of not more than 6 inches and not less than 3 inches between any ladder tread edge and the wall as measured from the side of the tread closest to the wall.

ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council.

ADEQ revised number words to Arabic numerals, changed verbs from passive voice to active voice, and revised subsections to make them more clear, concise, and understandable.

R18-5-216. Recessed Treads

- A. Recessed treads ~~and with~~ handrails may be substituted for ladders.
- B. Recessed treads shall be pre-formed, readily cleanable, and designed to drain into the swimming pool or spa to prevent the accumulation of dirt in the recessed treads.
- C. Each set of recessed treads shall be equipped with ~~two~~ 2 handrails.

- D. All recessed treads shall have slip-resistant surfaces.
- E. The vertical distance between the swimming pool or spa coping edge or deck and the uppermost recessed tread shall be a maximum of 12 inches. Recessed treads at the centerline shall have a uniform vertical spacing of 12 inches maximum and 7 inches minimum.
- F. Recessed treads shall ~~have a minimum depth of 5 inches and a minimum width of 12 inches~~ be at least 5 inches deep and 12 inches wide.

ADEQ revised this section in response to staff comments from the Governor's Regulatory Review Council. ADEQ changed the number word, "two," to the Arabic numeral, "2." ADEQ revised subsection (A) to make it more clear.

R18-5-217. Decks and Deck Equipment

- A. Decks, ramps, coping, and similar step surfaces shall be constructed of concrete or other inorganic material, have a slip-resistant finish, and be easily cleanable.
- B. The minimum continuous unobstructed deck width, including the coping, shall be 10 feet for a public swimming pool and 4 feet for a semipublic swimming pool. The dimensional design of decks at public and semipublic swimming pools shall comply with the dimensions shown in ~~Appendix C~~ Illustration B.

ADEQ eliminated an Appendix that was included in the proposed rules and changed the cross-reference in subsection (B) accordingly. ADEQ has been advised by staff at the Governor's Regulatory Review Council that the diagram that illustrates the dimensional requirements for decks is technically not an appendix. The Office of the Secretary of State rules on rulemaking define "appendix" as supplementary material to a set of rules, written in prose format [See R1-1-101(3)]. The deck diagram is an "illustration" or "a form of supplementary material used for diagrams, pictures, and other similar items" [See R1-1-101(18)]. For this reason, ADEQ changed the word, "appendix," to "illustration."

- C. A minimum 5 feet of deck width shall be provided on the sides and rear of any diving equipment at a public swimming pool. A minimum ~~of~~ 4 feet of deck width shall be provided on the sides and rear of any diving equipment at a semipublic swimming pool. ~~Where~~ If diving equipment is installed at a public swimming pool, there shall be a minimum ~~of~~ 15 feet of deck width from the swimming pool wall to the edge of the deck behind the diving equipment [See Illustration B].

ADEQ edited this subsection to be more concise and to include a cross-reference to Illustration B which illustrates deck width requirements.

- D. A continuous unobstructed deck width of at least 4 feet, which may include the coping, shall be provided on at least two contiguous sides and around at least 50% of the perimeter of a public or semipublic spa.
- E. Decks shall be sloped to effectively drain either to perimeter areas or to deck drains. Drainage shall remove splash water, deck cleaning water, and rain water without leaving standing water. The minimum slope of the deck shall be ~~one-fourth~~ 1/4 inch per 1 foot. The maximum slope of the deck shall be 1 inch per 1 foot, except for ramps.
- F. Decks shall be edged ~~or otherwise relieved~~ to eliminate sharp corners.
- G. Site drainage shall be provided ~~so as~~ to direct all perimeter deck drainage ~~as well as~~ and general site and roof drainage away from a public or semipublic swimming pool or spa. Yard drains may be required to prevent the accumulation or puddling of water in the general area of the deck and related improvements.
- H. Hose bibbs shall be provided along the perimeter of the deck so that all parts of the deck may be ~~reached with a 50-foot hose~~ washed down. At a minimum, each hose bibb shall be protected against back siphonage with an atmospheric vacuum breaker. ~~Quick~~ The Department may approve quick disconnect style hose bibbs ~~may be approved by the Department~~.

ADEQ eliminated the 50-foot hose requirement because it is overly prescriptive. The intent of the rule is to require an adequate number of hose bibbs so that all parts of the deck may be washed down.

- I. Any valve that is installed in or under any deck shall provide a minimum 10-inch diameter access cover and a valve pit to facilitate the repair and maintenance of the valve.
- J. Joints in decks shall be provided to minimize the potential for cracks due to changes in elevations or movement of the slab. The maximum voids between adjoining concrete slabs or between concrete slabs

and expansion joint material, shall be ~~three-sixteenths inch [3/16"]~~ 3/16 inch of horizontal clearance with a maximum difference in vertical elevation of ~~one-fourth inch [1/4"]~~ 1/4 inch. Areas where the deck joins concrete ~~work~~ shall be protected by expansion joints to protect the swimming pool or spa from the pressures of relative movements. Construction joints where pool or spa coping meets the deck shall be watertight and shall not allow water to pass through to the underlying ground.

ADEQ edited several subsections in response to staff comments from the Governor's Regulatory Review Council.

ADEQ edited subsections by eliminating unnecessary language, changing verbs from passive voice to active voice, and replacing number words with Arabic numerals.

R18-5-218. Lighting

- A. A public or semipublic swimming pool or spa and adjacent deck areas shall be lighted by natural or artificial means when ~~the swimming pool or spa is~~ they are in use.
- B. A public or semipublic swimming pool or spa that is intended to be used at night shall be equipped with artificial lighting that is designed and spaced so that all parts of the swimming pool or spa, including the bottom, may be seen without glare.

~~C. If underwater lighting is provided, it shall comply with the requirements of the National Electric Code.~~

ADEQ revised this section to make it more concise and to eliminate subsection (C). ADEQ has been advised that the reference to the National Electric Code in subsection (C) does not comply the legal requirements for incorporation by reference prescribed in A.R.S. §41-1028. ADEQ must either incorporate the National Electric Code by reference or eliminate the reference in the rule. Under §41-1028, a state agency may incorporate by reference any part of a code that is adopted by a national recognized organization or association if incorporation of the full text of the code would be unduly cumbersome, expensive, or otherwise inexpedient. The law requires that the incorporation by reference in the rule fully identify the incorporated matter by location and date. Also, an incorporation by reference must state that it does not include any later amendments or editions of the incorporated matter. An agency may adopt later amendments or editions of a code only by going through the rulemaking process. The law requires that the rule state where copies of the incorporated matter are available and the agency must file a copy of the incorporated matter with the Office of the Secretary of State at the time the final rule is filed.

*The National Electrical Code is voluminous and it is impractical to publish the full text of its electrical requirements in the swimming pool rules. Also, the National Electrical Code is published by a nationally recognized association, the National Fire Protection Association, so it meets the criteria for incorporation by reference. ADEQ chose to eliminate subsection (C) because ADEQ does not want to establish a rule which requires compliance with a specific edition of the National Electric Code. Such a rule "freezes" electrical requirements to those that exist at a date certain. A rule cannot legally incorporate by reference future editions of the National Electric Code. Consequently, the rule cannot be updated in a timely manner as the National Electric Code is updated. The American National Standard for Public Swimming Pools recommends that swimming pools meet the electrical requirements published in the **latest** version of the National Electrical Code [See §11.1 in ANSI / NSPI-1, 1991 (p. 20)], ADEQ will not include this recommended national standard in its swimming pool rules because of the inability to incorporate future editions of the National Electrical Code. Also, the incorporation by reference is unnecessary because the other rules require that a professional engineer, architect, or a licensed contractor prepare the swimming pool or spa design plans. A professional engineer, architect, or licensed contractor must comply with professional standards. For example, the rules of Registrar of Contractors establish workmanship standards that licensed contractors must meet. These workmanship standards require compliance with local building codes or minimum national standards such as the National Electric Code where there is no local building code. ADEQ will rely on these workmanship standards.*

R18-5-219. Water Depths

- A. Except as provided in subsection (B) ~~of this Section~~, the minimum water depth in the shallowest area of a public or semipublic swimming pool shall be 2 feet. The maximum water depth in the shallowest area of a public or semipublic swimming pool shall be 3 feet. In public swimming pools, where racing lanes terminate, the minimum depth shall be 5 feet from the water level to the point where the vertical wall is radiused to join the floor.
- B. The Department may approve a depth of less than 2 feet in a wading pool or to allow a zero depth entry swimming pool.
- C. The maximum water depth in a public or semipublic spa shall be 42 inches, ~~as~~ measured from the water

level.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

R18-5-220. Depth Markers

- A. Water depths shall be conspicuously and permanently marked at or above the water level on the vertical wall ~~of a public or semipublic swimming pool and shall be marked~~ and on the top of the coping or the edge of the deck next to ~~the~~ a swimming pool.
1. Depth markers on a vertical wall shall be positioned to be read from the water side.
 2. Depth markers on ~~the~~ a deck shall be located within 18 inches of the side of the swimming pool and positioned to be read while standing on the deck facing the water. Depth markers that are located on ~~the~~ a deck shall be made of slip-resistant materials.
- B. Depth markers for a public or semipublic swimming pool shall be installed at points of maximum and minimum water depth and at all points of slope change. Depth markers are required in the shallow area at 1-foot depth intervals to a depth of 5 feet. Thereafter, depth markers shall be installed at 2-foot depth intervals. Depth markers shall not be spaced at distances greater than 25 feet.
- C. Depth markers shall be located on both sides and at both ends of a public or semipublic swimming pool.
- D. Depth markers shall be in Arabic numerals with a ~~4-inches~~ 4-inch minimum height. ~~Numerals~~ Arabic numerals shall be of contrasting color to the background ~~on which they are applied.~~
- E. In public swimming pools with racing lanes, approach warning markers shall be placed below the water level on the opposite walls at the ends of each racing lane. Warning markers shall be of ~~uniform color and size on a background of contrasting uniform color~~ of contrasting color to the background . Warning markers shall be clearly visible in or out of the water from a minimum distance of 10 feet.
- F. The shallow area of a public swimming pool shall be visually set apart from the deep area of the pool by a rope and float line.
- G. Depth markers for a public or semipublic spa shall comply with all of the following:
1. A public or semipublic spa shall have permanent depth markers with numbers that are a minimum

of 4 inches high. Depth markers shall be plainly and conspicuously visible from all ~~obvious~~ points of entry.

2. The maximum depth of a public or semipublic spa shall be clearly indicated by depth markers.
3. There shall be a minimum of 2 depth markers at each public or semipublic spa, ~~regardless of spa size or shape.~~
4. Depth markers shall be spaced at no more than 25 foot intervals and shall be uniformly located around the perimeter of the spa.
5. Depth markers shall be positioned on the deck within 18 inches of the side of the spa. A depth marker shall be positioned so that it can be read by a person standing on the deck facing the water.
6. Depth markers that are on deck surfaces shall be made of slip-resistant material.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council. ADEQ eliminated unnecessary words to make the rule more concise.

R18-5-221. Diving Areas and Equipment

- A. The dimensions ~~for of~~ a diving area in a public or semipublic swimming pool shall comply with minimum requirements for length, width, depth, area, and other dimensions specified in ~~Appendix A Illustration A.~~ The diving well profile in Illustration A does not apply to a special use pool that is intended for competitive diving and has been approved by Department pursuant to R18-5-248(A).

ADEQ added the last sentence to clarify that the diving well dimensions prescribed in Appendix A do not apply to public and semipublic swimming pools that are designed for competitive diving.

- B. Diving equipment shall be permanently anchored to the swimming pool deck. Equipment shall be rigidly constructed with sufficient bracing to insure stability. Supports, platforms, steps, and ladders for diving equipment shall be designed to carry anticipated loads.
- C. All diving stands higher than 21 inches, ~~as~~ measured from the deck to the top ~~butt end~~ of the board, shall be provided with stairs or a ladder.
- D. Diving equipment shall have a durable finish. The surface finish shall be free of tears, splinters, or cracks that may be a hazard to users.

- E. Steps and ladders leading to diving boards and diving platforms shall be of corrosion-resisting materials and shall have slip-resistant tread surfaces. Step treads shall be self-draining.
- F. Diving boards, diving platforms, and starting blocks shall have slip-resistant tread surfaces.
- G. Handrails shall be provided at all steps and ladders leading to diving boards that are ~~one~~ 1 meter or more above the water.
- H. Diving boards and diving platforms that are ~~one~~ 1 meter or higher shall be protected with guard rails. Guard rails shall be at least 30 inches above the diving board or diving platform and shall extend to the edge of the swimming pool wall.
- I. A label shall be permanently affixed to a diving board and shall include the following:
 - 1. Manufacturer's name and address,
 - 2. Board length, and
 - 3. Fulcrum setting instructions.
- J. The maximum diving board height over the water is 3 meters. The maximum height of a diving platform over the water is 10 meters.
- K. Starting blocks shall be located in the deep end of a public swimming pool or where the depth of the water is at least 5 feet.
- L. There shall be a completely unobstructed clear vertical distance of 13 feet above any diving board measured from the center of the front end of the board. This clear, unobstructed vertical space shall extend horizontally at least 8 feet behind, 8 feet to each side, and 16 feet ahead of ~~Point A~~ the front end of the board.
- ~~M. Public and semipublic swimming pools that are intended for competitive diving, that have diving platforms, or that have diving boards that are higher than one meter over the surface of the water, shall be designed and constructed so as to comply with the dimensional design requirements specified for diving by the Federation Internationale de Amateur [FINA], U.S. Swimming, U.S. Diving, National Collegiate Athletic Association [NCAA], National Federation of State High School Associations [NFSHA], or other official athletic sanctioning body.~~

ADEQ struck subsection (M) because the staff of the Governor's Regulatory Review Council advised ADEQ that the

references to design requirements specified by the various athletic sanctioning bodies do not meet the legal requirements for incorporation by reference.

R18-5-222. Prohibition Against Diving; Warning Signs

- A. Diving equipment is prohibited in a public or semipublic swimming pool that does not meet the minimum diving well dimensions specified in ~~Appendix A for diving board-equipped pools is prohibited~~ Illustration A. If a public or semipublic swimming pool does not meet the dimensional requirements prescribed in ~~Appendix~~ Illustration A for diving, then the owner shall prominently display at least one sign ~~which that~~ cautions users that the swimming pool is not suitable for diving. The warning sign shall state "NO DIVING" in letters that are 4 inches or larger or display the international symbol for no diving.

ADEQ changed references to "Appendix A" to "Illustration A" to be consistent with the definitions for these terms that have been promulgated by the Office of the Secretary of State. ADEQ added the phrase which permits the use of the international symbol for no diving in response to a public comment.

- B. Diving from the deck of a public or semipublic swimming pool into water that is less than ~~five~~ 5 feet deep shall be prohibited. Warning markers ~~stating "NO DIVING" in letters that are 4 inches or higher~~ indicating in words or symbols that diving is prohibited shall be placed on the deck within 18 inches of the side of the shallow area of the swimming pool ~~in the shallow area of the swimming pool~~. A ~~"NO DIVING"~~ warning marker shall be positioned so that it can be read by a person standing on the deck facing the water.

ADEQ revised subsection (B) to permit no diving signs which use the international symbol for no diving.

R18-5-223. Water Circulation System

- A. A ~~water circulation system shall be provided for each~~ public or semipublic swimming pool or spa shall have a water circulation system to provide for that provides complete circulation of water through all parts of the swimming pool or spa. ~~The water circulation system shall be capable of maintaining and can maintain~~ water chemistry and water clarity requirements.
- B. The water circulation system for a public or semipublic swimming pool shall have a turnover rate of at

least once every 8 hours ~~or less~~. The water circulation system of a public or semipublic spa shall have a turnover rate of at least once every 30 minutes. The water circulation system for a wading pool shall have a turnover rate of at least once every hour. The water circulation system shall be designed to give the proper turnover rate without exceeding the maximum filtration rate for the filter ~~that is prescribed~~ in R18-4-227(E).

- C. Water circulation system components shall comply with ~~National Sanitation Foundation~~ American National Standard / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised ~~September 1, 1994~~ July, 1996, and no future editions] which is ~~hereby~~ incorporated by reference and on file with the Office of the Secretary of State and the Department.

ADEQ corrected updated the incorporation by reference to the latest edition of NSF Standard Number 50.

- D. Water circulation system components shall be accessible for inspection, repair, or replacement.
- E. Except as provided by this subsection, water ~~that is~~ withdrawn from a public or semipublic swimming pool or spa shall not be returned unless it has been filtered and adequately disinfected. Water may be withdrawn from a swimming pool for a water slide or a water fountain without being filtered or disinfected.

- ~~F. The water circulation system in a public or semipublic swimming pool or spa shall be capable of operating continuously.~~

ADEQ eliminated subsection (F) because it is an operational requirement, not a design standard.

~~G.F. Each swimming pool or spa shall be provided with its own water circulation system. In a swimming pool complex with more than one swimming pool or where there is a combination of swimming pools and spas, each swimming and spa shall have a separate water circulation system.~~

ADEQ rewrote subsection (F) to make it more clear.

~~H.G. Hydrotherapy jets or other devices which that create roiling water or other similar effects in a spa shall not be connected to the water circulation system, but must shall be operated through a separate system.~~

R18-5-224. Piping and Fittings

A. The water velocity in discharge piping for public and semipublic swimming pools and spas shall not exceed 10 feet per second, except for copper discharge piping where the velocity shall not exceed 8 feet per second. The water velocity in suction piping shall not exceed 6 feet per second. Piping shall be sized to permit the rated flows for filtering and cleaning without exceeding the maximum head of the pump.

ADEQ added language to subsection (A) to clarify that the water velocity requirements apply to piping for public and semipublic swimming pools and spas.

B. Water circulation system piping and fittings shall be constructed of materials that are able to withstand 150% of normal operating pressures. Suction piping shall be of sufficient strength so that it does not collapse when there is a complete shutoff of flow on the suction side of the pump. ~~Water circulation system piping shall undergo~~ A licensed Arizona contractor shall conduct an induced static hydraulic pressure test of the water circulation system at 25 pounds per square inch for at least 30 minutes. The pressure test shall be performed before the deck is poured ~~and the pressure shall be maintained during the deck pour.~~ Pressure in the water circulation system piping shall be maintained during the deck pour.

ADEQ changed passive verb forms to active voice. ADEQ rewrote the last sentence as two separate sentences because two separate ideas are expressed.

- C. Water circulation piping and fittings shall be made of nontoxic, corrosion-resistant materials.
- D. Water circulation piping and fittings shall be installed so that piping or fittings do not project into a public or semipublic swimming pool or spa in a manner ~~which that~~ is hazardous to users.
- E. Piping that is subject to damage by freezing shall have a uniform slope in one direction and shall be

equipped with valves ~~which that~~ will permit the complete drainage of the water in the swimming pool or spa.

- F. Piping shall be designed to drain the swimming pool or spa water by ~~removal of removing~~ drain plugs, manipulating valves, or other means.
- G. Piping systems shall be identified by ~~name tags or appropriate colors painted or~~ color, or by stencils or labels located at conspicuous points.
- H. Plastic water circulation piping shall comply with ~~National Sanitation Foundation~~ American National Standard / NSF International Standard Number 14, "Plastics Piping System Components and Related Materials," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised ~~November, 1990~~ September, 1996 and no future editions] which is hereby incorporated by reference and on file with the Office of the Secretary of State and the Department.

ADEQ updated the incorporation by reference in subsection (F) to the latest edition of NSF Standard Number 14.

R18-5-225. Pumps and Motors

- A. A pump and motor shall be provided for each water circulation system. The pump shall be sized to meet but not to exceed the flow rate required for filtering against the total head developed by the complete water circulation system. The pump shall be sized to comply with the turnover rate prescribed in R18-4-223(B).
- B. Pumps and motors shall be readily and easily accessible for inspection, maintenance, and repair. When the pump is below the waterline, valves shall be installed on permanently connected suction and discharge lines. The valves shall be readily and easily accessible for maintenance and removal of the pump.
- C. Each motor shall have an open, drip-proof enclosure ~~which complies with National Electrical Manufacturer's Association Standard ANSI/NEMA-MG1.~~ Each motor shall be constructed electrically and mechanically to perform satisfactorily and safely under the conditions of load ~~and~~ in the environment normally encountered in swimming pool or spa installations. Each motor shall be capable of operating the pump under full load with a voltage variation of $\pm 10\%$ from the nameplate rating. Each motor shall have thermal or current overload protection, ~~either built-in or in the line starter~~, to provide locked rotor and running protection. Thermal or current overload protection may be built into the motor or in the line

starter.

ADEQ eliminated the reference to ANSI / NEMA-MG1 because it does not meet the legal requirements for incorporation by reference.

- D. The pump shall be equipped with an emergency shut-off switch that is located within the swimming pool or spa enclosure to cut off power to the water circulation system if someone is entrapped on a main drain or suction outlet.

ADEQ added language to subsection (D) to clarify that the emergency shut-off switch requirement also applies to spas.

R18-5-226. Drains and Suction Outlets

- A. A public and semipublic swimming pool ~~or spa~~ shall be equipped with at least ~~two~~ 2 main drains ~~that are~~ located in the deepest part of the swimming pool. or a single gravity drain that discharges to a surge tank.

ADEQ amended subsection (A) to allow single drain systems which operate on gravity and which are plumbed to prevent any possibility of entrapping suction at the drain.

- B. Each main drain shall be covered by a grate ~~which that~~ is not be readily removable by users. The openings in the grate shall have a total area that is at least ~~four~~ 4 times the area of the drain pipe.

- C. The spacing of the main drains shall not be greater than 20 feet on centers ~~nor and not~~ more than 15 feet from each side wall.

~~D. Suction outlets in a public or semipublic swimming pool or spa shall be provided with a cover that has been tested and approved by a nationally recognized testing laboratory and shall comply with "Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Whirlpool Appliances," ANSI A112.19.8 M-1987, which is incorporated by reference and on file with the Office of the Secretary of State and the Department.~~

ADEQ struck subsection (D) because ADEQ was unable to meet the legal requirements for incorporation by reference.

- ~~E D.~~ A minimum of 2 suction outlets shall be provided for each pump in ~~the a~~ suction outlet system for a public or semipublic spa. The suction outlets shall be separated by a minimum of ~~three~~ 3 feet or located on ~~two~~ 2

different planes [i.e. ~~one~~ 1 suction outlet on the bottom and ~~one~~ 1 on a vertical wall or ~~one~~ 1 suction outlet each on ~~two~~ 2 separate vertical walls]. The suction outlets shall be plumbed ~~such that water is drawn to~~ draw water through them simultaneously through a common line to the pump. Suction outlets shall be plumbed to eliminate the possibility of entrapping suction.

~~F E.~~ ~~Suction outlets in a public or semipublic spa shall have plumbing provisions so as to relieve any possibility of entrapping suction. The total velocity through grate openings shall not exceed two feet per second.~~ If the suction outlet system for a public or semipublic swimming pool or spa ~~has a single suction outlet or if the suction outlet system~~ has multiple suction outlets ~~which that~~ can be isolated by valves, then each suction outlet shall protect against user entrapment by either an antivortex cover, a grate, or other means approved by the Department.

~~F.~~ A public or semipublic spa may be equipped with a single gravity drain that discharges to a surge tank instead of suction outlets. The total velocity of water through grate openings of the drain shall not exceed two feet per second.

ADEQ reorganized subsections (E) and (F) to make them clearer. Subsection (E) addresses suction outlets in spas. Subsection (F) applies to the use of single gravity drains in public and semipublic spas. ADEQ eliminated the reference to single suction outlet systems in spas because these are prohibited by another section of the rules. ADEQ also added language which allows single gravity drains in spas that are designed so there is no possibility of entrapping suction at the drain.

R18-5-227. Filters

A. Filters shall be designed, located, and constructed to permit removal of filter manhole covers or heads for inspection ~~and~~, replacement, or repair of filter elements or filter media. No filtration system shall be

installed beneath the surface of the ground or within an enclosure without providing adequate access for inspection and maintenance.

- B. Pressure-type filters shall be equipped with a means to ~~permit the release of~~ release internal pressure. Each pressure filter shall be equipped with an air relief piping system connected at an accessible point near the crown. Automatic air relief systems may be used ~~in lieu~~ instead of manual systems. ~~Any~~ The design of a filter ~~incorporating with~~ an automatic air relief system as its principal means of air release shall ~~have~~ include lids ~~which that~~ provide a slow and safe release of pressure ~~as a part of its design~~. ~~Any~~ The design of a separation tank used in conjunction with any filter tank shall ~~have~~ include a manual means of air release or a lid which provides a slow and safe release of pressure as it is opened ~~as part of its design~~.
- C. Pressure filter systems shall be equipped with a sight glass installed on the waste discharge pipe.
- D. Swimming pool and spa filters shall comply with ~~National Sanitation Foundation~~ American National Standard / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas, or Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised ~~September 1, 1994~~ July, 1996 and no future editions] which is ~~hereby~~ incorporated by reference and on file with the Office of the Secretary of State and the Department.

ADEQ updated the incorporation by reference to include the latest version of NSF Standard Number 50.

- E. The maximum filtration rate shall not exceed the design flow rate prescribed ~~for the filter~~ by the National Sanitation Foundation Standard 50 for commercial filters. ~~and in~~ In no case shall the maximum filtration rate exceed the following:

1. The rate of filtration in a high-rate sand filter shall not exceed ~~an equivalent of 20~~ 25 gallons/minute/square foot.
2. The rate of filtration of a diatomaceous earth filter shall not exceed 2 gallons/minute/square foot.
3. The rate of filtration of a cartridge filter shall not exceed 0.375 gallons/minute/square foot.

ADEQ revised subsection (D) to clarify that the maximum filtration rates for commercial filters that are prescribed by the National Sanitation Foundation apply to public and semipublic swimming pools and spas, not the filtration rates that apply to filters intended for residential use. ADEQ also revised the filtration rate for high-rate sand filters upwards because the National Sanitation Foundation lists commercial filters with filtration rates which

exceed 20 gallons/minute/square foot. ADEQ made other editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

R18-5-228. Return Inlets

- A. Adjustable return inlets shall be provided for each public and semipublic swimming pool or spa. Return inlets shall be designed, sized, and installed to produce a uniform circulation of water throughout the swimming pool or spa. Where surface skimmers are used, return inlets on vertical walls shall be located ~~so~~ ~~as~~ to help bring floating particles within range of the surface skimmers.

ADEQ revised the third sentence in subsection (A) to clarify that the last sentence does not apply to bottom returns.

- B. A public or semipublic swimming pool shall have a minimum of 2 return inlets, regardless of the size of the swimming pool. The number of return inlets shall be based on 2 return inlets per 600 square feet of surface area, or fraction thereof.
- C. Return inlets in a public or semipublic swimming pool shall be on a closed loop piping system. Public or semipublic spas with ~~three~~ 3 or more return inlets shall be on a closed loop piping system.
- D. Where the width of a public or semipublic swimming pool exceeds 30 feet, bottom returns shall be required. Bottom returns shall be flush with the pool bottom or designed to prevent injury to users.
- ~~Bottom returns will be considered to have an area of influence described by a radius of 15 feet.~~

ADEQ struck the last sentence because it is unnecessary and it may be technically incorrect.

R18-5-229. Gauges

- A. Pressure gauges shall be installed on the water circulation system for each public and semipublic swimming pool and spa. Pressure gauges shall be installed in accessible locations where they ~~are easily~~ ~~readable~~ can be read easily.
- B. Pressure gauges shall be installed on the inlet and outlet manifold of the filter. Pressure gauges shall read at intervals of 1 pound per square inch [psi].

ADEQ made editorial changes to R18-5-229 to make it clearer.

R18-5-230. Flow Meter

A public swimming pool shall be equipped with, a flow meter which indicates the rate of backwash through the filter. The flow meter shall be installed between the pump and the filter on a straight section of pipe ~~as per~~ in accordance with the manufacturer's specifications in a location where it can be read easily. The flow meter shall measure the rate of flow through the filter in gallons per minute and shall be accurate to within 5% under all conditions of flow. The flow meter shall have an indicator with a range of at least 150% of the normal flow rate.

ADEQ made editorial changes to this section to make it clearer.

R18-5-231. Strainers

No change.

R18-5-232. Overflow Collection Systems

- A. An overflow collection system shall be installed in each public or semipublic swimming pool or spa.
- B. The overflow collection system shall be designed and constructed so that the water level of the swimming pool is maintained at the mid-point of the operating range of the system's rim or weir device.
- C. Rim type overflow collection systems shall be installed on at least ~~two~~ 2 opposite sides and have a total length of at least 50% of the perimeter of a public or semipublic swimming pool. The overflow collection system shall be capable of carrying 50% of the design capacity of the water circulation system.
- D. If overflow gutters are used, they shall be installed continuously around the swimming pool with the lip of the gutter level throughout its perimeter. Overflow gutters shall be provided with sufficient opening at the top and width at the bottom to permit easy cleaning. The overflow gutter bottom shall be pitched ~~one-quarter~~ 1/4 inch per foot to drainage outlets located not more than 10 feet apart. Outlet piping shall be sized to circulate at least 50% of the capacity of the water circulation system and be properly covered by a drain grate. The surge tank for the overflow gutters shall be equipped with float controls which regulate the main drain, fill line, and overflow. The system surge capacity shall ~~be not~~ be less than one gallon for each square foot of swimming pool surface area. Stainless steel gutters and other specialty gutter systems may be used if they are hydraulically equivalent to overflow gutters.

- E. Surface skimmers shall be recessed into the swimming pool or spa wall and shall be installed to achieve effective skimming action throughout the swimming pool or spa.
1. ~~One~~ A surface skimmer shall be provided for each 400 square feet of surface area, or fraction thereof, ~~of surface area~~ of a public or semipublic swimming pool. A minimum of two surface skimmers are required in a public or semipublic swimming pool. ~~One~~ A surface skimmer shall be provided for each 200 square feet of surface area, or fraction thereof, ~~of surface area~~ of a public or semipublic spa.
 2. The overflow slot shall be set level and shall not be less than 8 inches in width at the narrowest section.
 3. The rate of flow through the skimmers shall be a minimum of 75% of the water circulation system capacity. Surface skimmers shall be designed to carry at least 30 gallons per minute per lineal foot of weir throat.
 4. Where ~~three~~ 3 or more surface skimmers are used, they must be on a closed loop piping system.
 5. At least ~~one~~ 1 surface skimmer shall be located on the side or near the corner of the swimming pool that is downwind of the area's prevailing winds.
 6. Main drain piping shall be designed to carry at least 50% of the design flow.
- F. Mixed inlet types [e.g., surface skimmers and gutters] are prohibited in a public or semipublic swimming pool.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council, changing number and fraction words to Arabic numerals and word order in some sentences.

R18-5-233. Vacuum Cleaning Systems

No change.

R18-5-234. Disinfection

- A. An adjustable automatic chemical feeder ~~which is adjustable~~ shall be provided to ensure the continuous disinfection of the water in a public or semipublic swimming pool or spa. Timers on disinfection

equipment are prohibited. Disinfection shall be accomplished by chlorination or by another method that is approved by the Department. The method of disinfection shall effectively maintain an adequate disinfectant residual in the water which is subject to field testing by methods that are easy to use and accurate.

1. Chlorine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a free chlorine residual of 1.0 to 3.0 ppm. ~~at a pH of 7.2 to 7.8.~~ Chlorine disinfection equipment for a public or semipublic spa shall be designed to maintain a free chlorine residual of 3.0 to 5.0 ppm.
2. Bromine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a bromine residual of 2.0 to 4.0 ppm. Bromine disinfection equipment for a public or semipublic spa shall be designed to maintain a bromine residual of 3.0 to 5.0 ppm.

ADEQ revised paragraphs (A)(1) and (2) above to distinguish between disinfectant residual requirements for public and semipublic swimming pools and disinfectant residual requirements for public and semipublic spas. Spas have higher disinfectant residual requirements because of their bather load and higher water temperatures.

~~3. Chemical feeders for the addition of isocyanurates or chlorinated cyanurate shall be designed to maintain a level of 30-100 ppm.~~

- B. The use of chlorinated isocyanurates or ~~chlorinated cyanurate~~ cyanuric acid stabilizer for disinfection and stabilization is permitted. If used, chlorinated isocyanurates shall be fed so as to maintain required disinfectant residual levels. Cyanuric acid levels, whether from chlorinated isocyanurates or from the separate addition of cyanuric acid stabilizer, shall not exceed 150 ppm.

ADEQ revised subsections (A)(3) and (B) in response to a public comment. ADEQ combined subsections (A)(3) and (B) because they address the same subject matter. ADEQ revised subsection (B) to make it clearer and to allow higher concentrations of cyanuric acid stabilizer because chlorine residual is rapidly destroyed by strong sunlight.

- C. ~~Combined chlorine disinfection of water in a public and semipublic swimming pool or spa is prohibited~~
The use of chloramines as a primary disinfectant of swimming pool or spa water is prohibited.

ADEQ rewrote subsection (C) because of confusion over the phrase, "combined chlorine disinfection."

- D. The addition of ~~undissolved or~~ gaseous disinfectant directly into a public or semipublic swimming pool is

prohibited. ~~The addition of dry or liquid disinfectant directly into a public or semipublic swimming pool or spa for routine disinfection is prohibited. This prohibition does not prohibit the use of liquid or dry disinfectants for shock treatment of a swimming pool or spa. A Chlorine chlorine gas disinfection systems system shall not be used for the disinfection of water in a public or semipublic spas spa.~~

ADEQ added language to subsection (D) to clarify that the broadcasting of liquid or dry disinfectant is prohibited as the principal means for disinfection of a public or semipublic swimming pool but the addition of dry or liquid disinfectant for shock treatment is not prohibited.

E. A common chlorine gas disinfection system may be utilized in separate swimming pools if separate metering and feeding devices are provided for each swimming pool.

F. ~~When If~~ gaseous chlorine is used for disinfection, the following shall be provided:

1. The chlorinator, chlorine cylinders, and associated chlorination equipment shall be located in a separate well-ventilated enclosure at or above ground level. The enclosure shall be reasonably gas-tight, noncombustible, and corrosion-resistant. The door of the enclosure shall open to the outside and shall not open directly toward the swimming pool.
2. If chlorination equipment is placed in a room, then an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion-resistant louvers to a safe outside location. A gravity ventilation system shall be designed and constructed to discharge to the outside from floor level. Fresh air intakes shall be located no closer than 3 feet above the ventilation discharge. ~~In all cases, chlorine~~ Chlorine room exhausts shall be directed away from the swimming pool to an area which is normally unoccupied. Chlorine room fans shall be capable of completely changing the air in the room at ~~at least one time in once~~ a minute.
3. Electrical switches to control lighting and ventilation in the chlorine room shall be located on the outside of the enclosure and adjacent to the door.
4. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent them from falling. Chlorine cylinders may be stored indoors or out. If stored outside, chlorine cylinders shall not be stored in direct sunlight. ~~Keys shall be maintained on the chlorine cylinder so the~~

~~supply can be shut off quickly in the case of an emergency.~~ Chlorine cylinders shall not be stored near an elevator, ventilation system, or heat source. ~~Full and empty chlorine cylinders shall be segregated and appropriately tagged.~~

ADEQ eliminated language from paragraph (4) which relates to the operation of the chlorine room and the handling of chlorine cylinders. These are operational requirements and not design standards.

5. A warning sign shall be placed on the outside of the door to the chlorine room which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3 inches high or larger. The door to the chlorine room shall be provided with a shatter resistant inspection window.

6. Chlorinators shall be a solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere. Chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.

~~7. Self contained breathing apparatus [SCBA] which meets the requirements of the National Institute for Occupational Safety [NIOSH] shall be available where chlorine gas is handled, and shall be stored in a convenient location, but not inside any room where chlorine is used or stored. A SCBA unit shall use compressed air, have at least a 30-minute capacity, and be compatible with SCBA units used by the local fire department.~~

~~8. A bottle of ammonium hydroxide, 56% ammonia solution, shall be available for chlorine leak detection. A leak repair kit that is approved by the Chlorine Institute shall be provided.~~

ADEQ eliminated paragraphs (7) and (8) because they are operational requirements. Also, ADEQ is concerned about the promulgation of any regulation which may lead to accidents because swimming pool operators are not properly trained in the use of self-contained breathing apparatus or fixing chlorine leaks.

G. Granular, tablet, stick, and other forms of dry disinfectant shall be fed by an adjustable automatic feeding device.

H. Disinfection equipment and chemical feeders shall comply with the requirements set forth in ~~National Sanitation Foundation~~ American National Standard / NSF International Standard 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475

Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised ~~September 1, 1994~~ July, 1996 and no future editions] which is ~~hereby~~ incorporated by reference and on file with the Office of the Secretary of State and the Department.

ADEQ corrected and updated the incorporation by reference to the latest version of NSF Standard Number 50.

- I. If a chemical feeder is used, it shall be installed to inject solution downstream from the filter and the heater. An erosion-type feeder may be installed to feed solution to the suction side of the pump. A chemical feeder shall be wired so it cannot operate unless the filter pump is running.

R18-5-235. Cross-Connection Control

- A. Cross-connections between the distribution system of a public water system and the water circulation system of a public or semipublic swimming pool or spa are prohibited.
- B. Potable water for make-up water purposes may be introduced into a public or semipublic swimming pool or spa in any of the following ways:
 1. Through an over-the-rim spout with an air-gap of at least twice the diameter of the pipe and not less than ~~six~~ 6 inches above the overflow level. If an over-the-rim spout is used, it shall be located so that it does not present a tripping hazard. The open end of an over-the-rim spout shall have no sharp edges and shall not protrude more than 2 inches beyond the edge of the swimming pool or spa wall;
 2. Through a float controlled make-up water feed tank with an air gap of at least 3 inches above the overflow level; or
 3. Through a submerged inlet ~~which~~ that is protected against backsiphonage by at least a pressure vacuum breaker ~~which~~ that is installed so that the bottom of the backflow prevention assembly is a minimum of 12 inches above the level of the coping.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council, changing number words to Arabic numerals and the word, "which," to "that." to be consistent with the rulemaking style manual published by the Office of the Secretary of State.

R18-5-236. Disposal of Filter Backwash , Wasted Swimming Pool or Spa Water, and Wastewater

All sewage from plumbing fixtures, including urinals, toilets, lavatories, showers, drinking fountains, floor drains, and other sanitary facilities shall be disposed of in a sanitary manner. Filter backwash and wasted swimming pool or spa water ~~may shall~~ be discharged into a sanitary sewer through an approved air gap, an approved subsurface disposal system, or by other means that are approved by the Department. ~~provided the method of disposal complies~~ The method of disposal shall comply with ~~any~~ applicable disposal requirements established by a county, municipal, or other local authority. There shall be no direct physical connection between the sewer system and ~~any drain from a swimming pool or spa or~~ the water circulation system of a public or semipublic swimming pool or spa.

ADEQ changed the “may” to “shall” because the proper disposal of filter backwash, used swimming pool or spa water, and wastewater by an approved method is mandatory, not discretionary.

R18-5-237. Lifeguard Chairs

Each public swimming pool shall have at least ~~one~~ 1 elevated lifeguard chair for each 3,000 square feet of pool surface area or fraction thereof. At least ~~one~~ 1 lifeguard chair shall be located close to the deep area of the swimming pool and shall provide a clear, unobstructed view of the swimming pool bottom. If a public swimming pool is provided with more than ~~one~~ 1 lifeguard chair or the width of the public swimming pool is ~~forty-five~~ 45 feet or more, then lifeguard chairs shall be located on each side of the public swimming pool.

ADEQ changed number words to Arabic numerals to be consistent with the rule drafting style manual published by the Office of the Secretary of State.

R18-5-238. Lifesaving and Safety Equipment

- A. Public and semipublic swimming pools shall have lifesaving and safety equipment that is conspicuously and conveniently located and maintained ready for immediate use at all times.
- B. Each public or semipublic swimming pool shall have at least ~~2 ring buoys~~ 1 ring buoy or a similar flotation device. ~~Each semipublic swimming pool shall have at least one ring buoy. Fifty feet of 1/4 inch rope shall be attached to each ring buoy. Each ring buoy or flotation device shall be attached to 50 feet of 1/4 inch rope.~~

ADEQ revised subsection (B) so that it is more consistent with voluntary national standards published by American National Standards Institute / National Spa and Pool Institute for lifesaving equipment.

- C. Each semipublic and public swimming pool shall have at least one shepherd crook that is mounted on a rigid 16-foot pole.

R18-5-239. Rope and Float Lines

A rope and float line shall be installed across each public swimming pool on the shallow side of the break in grade between the shallow and deep portions of the pool [i.e., within 1 to 2 ~~ft~~ feet of the point where the floor slope begins to exceed 1 foot in 10 feet]. The rope shall be a minimum of 3/4 inch in diameter and supported by floats spaced at intervals not greater than 7 feet. The rope and float line shall be securely fastened to wall anchors that are made of corrosion-resistant materials. The wall anchors shall be recessed or have no projection that constitutes a hazard when the float line is removed.

ADEQ replaced the abbreviation "ft." with the word, "feet," and corrected an omission in the proposed rule.

R18-5-240. Barriers

- A. A public swimming pool or spa and ~~adjacent~~ deck shall be entirely enclosed by a fence, wall, or barrier that is at least ~~six~~ 6 feet high. A semipublic swimming pool or spa and ~~adjacent~~ deck shall be entirely enclosed by a fence, wall, or barrier that is at least ~~five~~ 5 feet high. The height of the fence, wall, or barrier shall be measured on the side of the barrier which faces away from the swimming pool or spa.
- B. Fences or walls shall:
1. Be constructed ~~so as~~ to afford no external handholds or footholds,
 2. Be of materials ~~which that~~ are impenetrable to small children,
 3. Have no openings or spacings of ~~such a~~ size that a spherical object ~~four (4)~~ 4 inches in diameter can pass through, and
 4. Be equipped with a gate ~~which that~~ opens outward from the swimming pool or spa. The gate shall be equipped with a self-closing and self-latching closure mechanism or a locking closure located at or near the top of the gate, on the pool side of the gate, and at least 54 inches above the floor.

- C. The distance between the horizontal components of a fence shall not be less than 45 inches apart. The horizontal members shall be located on the interior side of the fence. Spacing or openings between vertical members shall ~~not exceed 1 3/4 inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 3/4 inches in width~~ be of a size that a spherical object 4 inches in diameter cannot pass through.

ADEQ revised subsection (C) to correct 1 3/4" to 4." The correct spacing between vertical members of a fence is 4 inches.

- D. The maximum mesh size for a wire mesh or chain link fence shall be a 1 3/4 inches square.
- E. Masonry or stone walls shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
- F. ~~Where~~ If a wall of a building serves as part of the barrier around a public or semipublic swimming pool or spa, there shall be no direct access to the swimming pool or spa through the wall except as follows:
1. Windows leading to the swimming pool or spa area shall be equipped with a screwed-in place wire mesh screen or a keyed lock that prevents opening the window more than ~~four~~ 4 inches.
 2. A hinged door leading to the swimming pool or spa area shall be self-closing and shall have a self-latching device. The release mechanism of the self-latching device shall be located at least 54 inches above the floor.
 3. If an additional set of doors is required by the fire code allowing access to the swimming pool or spa, they shall be self-closing and self-latching, equipped with panic bars no less than 54 inches from the floor to the bottom of the bar and designated "For Emergency Use Only" ~~and equipped with an alarm system.~~

ADEQ added the words "self-closing and self latching" and eliminated the alarm system requirement for fire doors to make the rule consistent with current Maricopa and Pima County swimming pool ordinances.

4. Sliding doors leading to the swimming pool or spa area are prohibited except for sliding doors that are self-closing and self-latching.
- G. ~~Where~~ If a barrier is composed of a combination concrete masonry unit and wrought-iron, the wrought iron portion shall be installed flush with the outside vertical surface of the concrete masonry unit. The space

between the wrought iron and the concrete masonry unit shall be ½ inch or less. The vertical members of the wrought iron shall be spaced ~~1 3/4 inch~~ 4 inches on center.

H. Filtration, disinfection, and water circulation equipment shall be enclosed by a wall or fence.

ADEQ revised subsection (G) to correct 1 3/4" to 4." The correct spacing between vertical members of a wrought iron fence is 4 inches. ADEQ made other editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

R18-5-241. Public Swimming Pools; Bathhouses and Dressing Rooms

A. Separate dressing rooms shall be provided for each sex. Dressing rooms shall be equipped with baskets or other checking facilities ~~adequate for the maximum number of people to be accommodated.~~

ADEQ struck the highlighted phrase in subsection (A) because it is vague.

B. All entrances to and exits from the dressing rooms shall be effectively screened to interrupt the line of sight of persons outside the dressing rooms.

C. Walls and partitions of dressing rooms, locker rooms, toilets, and showers shall be light colored, smooth, nonabsorbent, and easily cleanable. Concrete or pumice blocks used for interior wall construction in these locations shall be finished and sealed to provide a smooth and easily cleanable surface. Partitions shall be designed so that a waterway is provided between partitions and the floor to permit thorough cleaning of the walls and floor areas with hoses and brooms.

D. Floors shall be of nonslip construction, free of cracks or openings, and sloped to adequate drains so ~~that~~ the surface will be free of standing water and puddles. Floors shall be sloped not less than ¼ inch per foot toward the drains to insure positive drainage. Carpeting is prohibited.

E. All furniture shall be of simple character and easily cleanable. Locker compartments, partitions, booths, furniture, and other appurtenances in dressing rooms shall be so installed or raised above the floor to permit ~~flushing~~ washing down the dressing rooms and bathhouse interiors.

F. An adequate number of hose bibs shall be provided for ~~flushing~~ washing down the dressing room ~~and the~~ or bathhouse interior.

G. Dressing rooms, toilets, and showers shall be provided with adequate lighting and ventilation.

- H. Toilet facilities shall be provided for each sex. For male users, there shall be 1 toilet and 1 urinal for each 100 bathers or fraction thereof. For female users, there shall be 1 toilet for each 50 bathers, or fraction thereof. In no case shall less than 2 toilets be provided for female users. Sanitary napkin dispensers shall be installed in toilet or shower areas designated for female users.
- I. Shower and handwashing facilities with hot and cold water and soap shall be provided for each dressing room. Hot and cold water shall be provided at all shower heads. The water heater and thermostatic mixing valve shall be inaccessible to users and shall be capable of providing 2 gallons per minute of 90°F water to each shower head. A minimum of 2 shower heads shall be provided in each dressing room. ~~One shower head shall be provided in each~~ Each dressing room shall have 1 shower head for each 50 bathers or fraction thereof.
- J. One lavatory with an unbreakable mirror shall be provided in each dressing room for the first ~~one hundred~~ 100 users. An additional lavatory and unbreakable mirror shall be provided for each additional 100 users or fraction thereof. Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory. Soap dispensers shall be made of metal or plastic with no glass permitted.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review

Council. ADEQ changed number words to Arabic numerals, changed verbs from passive voice to active voice, and changed the word, "flushing," to "washing."

R18-5-242. Semipublic Swimming Pools; Toilets and Lavatories

- A. A bathroom with a minimum of ~~one~~ 1 toilet shall be provided for each sex.
- B. ~~One lavatory shall be provided in each bathroom~~ Each bathroom shall have at least 1 lavatory. Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory. Soap dispensers shall be made of metal or plastic with no glass permitted.
- C. An establishment ~~which that~~ operates a semipublic swimming pool or spa ~~which and~~ provides a private room with a toilet and lavatory for ~~all~~ bathers shall be deemed to have complied with the requirements of this Section.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

R18-5-243. Drinking Water Fountains

Drinking water from an approved source and dispensed through ~~one~~ 1 or more drinking fountains shall be located on the deck of each public swimming pool or spa.

R18-5-244. Wading Pools

- A. A wading pool is a type of public or semipublic swimming pool. The design criteria prescribed in this Article for public or semipublic swimming pools apply, except as provided in this Section.
- B. ~~Wading pools~~ A wading pool shall be physically set apart from public and semipublic swimming pools.
 - 1. A wading pool shall be separated from a public swimming pool by a minimum 4-foot high fence or partition with a self-closing, self-latching gate.
 - 2. A wading pool shall be separated from a semipublic swimming pool by at least ~~four~~ 4 feet of deck.
 - 3. A wading pool shall not be located adjacent to the deep area of a public or semipublic swimming

pool.

- C. A wading pool shall have a maximum depth of ~~20~~24 inches. Water depths may be reduced from the stated maximums and brought to zero at the most shallow point of the wading pool.
- D. The floor of a wading pool shall be uniform with a maximum slope of 1 foot of fall in 10 feet. The floor of a wading pool shall have a slip-resistant surface.
- E. All wading pools shall have separate equipment for water circulation and disinfection. There shall be no cross-connection between the water circulation system of a wading pool and a public or semipublic swimming pool. The water in a wading pool shall have a maximum turnover cycle of 1 hour.
- F. At least ~~two~~2 main drains shall be provided at the deepest point in a wading pool. Each main drain shall be covered by a grate which cannot be removed by users. The openings in the grate shall have a total area that is at least 4 times the area of the drain pipe. In the alternative, a wading pool may be equipped with a single gravity drain which discharges to a surge tank.

ADEQ amended subsection (F) to allow single drain systems which operate on a gravity principle and which are plumbed in a way which eliminates the possibility of entrapping suction at the one drain.

- G. Surface skimmers shall be provided on the basis of at least ~~one~~1 skimmer for each 200 square feet of wading pool surface area. Surface skimmer flow rates shall be the same as required for public and semipublic swimming pools. Where only ~~one~~1 skimmer is provided, the main drain may be connected through the skimmer.
- H. Return inlets shall be provided ~~on a basis of at least one for each 10 feet of periphery of the wading pool~~ and arranged to produce a uniform circulation of water and maintain a uniform disinfectant residual throughout the wading pool. Where ~~three~~3 or more return inlets are required, they shall be on a closed loop piping system.

ADEQ revised subsection (H) to be less prescriptive and to be consistent with voluntary national standards which relate to return inlets in public and semipublic swimming pools.

- I. Suction outlets in a wading pool shall have plumbing provisions so as to relieve any possibility of entrapping suction. ~~Suction outlets in a wading pool shall be provided with a cover that has been tested and approved by a nationally recognized testing laboratory and shall comply with "Suction Fittings for Use~~

~~in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Whirlpool Appliances,” ANSI A112.19.8 M-1987, which is incorporated by reference and on file with the Office of the Secretary of State and the Department.~~

ADEQ struck the latter part of subsection (I) because ADEQ has determined that it is unnecessary. The requirements for suction fittings can be addressed without an incorporation by reference.

- J. Gaseous chlorine shall not be used for the disinfection of wading pool water.
- K. A drinking fountain at a height convenient to small children or a drinking fountain with a raised step shall be provided in the area of the wading pool.

R18-5-245. ~~Electrical requirements~~ Timers for Public and Semipublic Spas

- ~~A. A public or semipublic swimming pool or spa shall comply with the requirements of the National Electrical Code.~~
- ~~B. All grounding and bonding required in a public or semipublic spa shall comply with the requirements of UL 1563, “Standard for Electric Hot Tubs, Spas and Associated Equipment” [1987].~~
- C. The timer for a public or semipublic spa which controls the hydrotherapy jets shall be located at least 5 feet from the spa and shall have a maximum time limit of 15 minutes.

ADEQ struck the electrical requirements in subsections (A) and (B) because they are unnecessary. ADEQ will rely on workmanship standards for electrical requirements in rules that are prescribed by the Registrar of Contractors.

R18-5-246. Air Blower and Air Induction Systems for Public and Semipublic Spas

An air blower system or air induction system for a public or semipublic spa shall comply with the following requirements:

- 1. The system shall prevent water backflow which could cause an electrical shock hazard;
- 2. Air intake sources shall not introduce water ~~that is external to the spa unit~~, dirt, or contaminants into the spa;
- 3. The system shall be properly sized for a commercial spa application;
- 4. If the air blower is installed within an enclosure or indoors, then adequate ventilation shall be provided;

and

~~5. The system shall be installed in accordance with the requirements of the National Electrical Code;~~

~~6.5. Integral air passages shall be pressure tested and shall provide structural integrity to a value of one and one-half 1½ times the intended working pressure; and.~~

~~7. Air blowers and air induction systems shall comply with the requirements of UL 1563, "Standard for Electric Hot Tubs, Spas, and Associated Equipment."~~

ADEQ struck paragraph (5) because it is unnecessary. ADEQ struck paragraph (7) because it does not comply with the legal requirements for incorporation by reference.

R18-5-247. Water Temperature in Public and Semipublic Spas

No change.

R18-5-248. Special Use Pools

A. A person who intends to construct a special use pool shall notify the Department and provide plans, specifications, and a description of the intended use of the special use pool. The Department shall use best professional judgment in approving a special use pool, taking into consideration the intended use of the pool, the conditions under which it will operate, and the safety of users. The Department may consider the design requirements prescribed by an official sanctioning athletic body such as the National Collegiate Athletic Association [NCAA], National Federation of State High School Associations [NFSHSA], U.S. Swimming, U.S. Diving, or the Internationale de Natation Amateur [FINA] in using best professional judgement to approve a special use pool that is intended for competitive swimming and diving.

~~B. Swimming pools that are intended for competitive swimming and diving that are designed and constructed in accordance with design requirements prescribed by an official sanctioning athletic body such as the National Collegiate Athletic Association [NCAA], National Federation of State High School Associations [NFSHSA], U.S. Swimming, U.S. Diving, or the Internationale de Natation Amateur [FINA] may be approved by the Department.~~

ADEQ struck subsection (B) because it has been advised that it must incorporate by reference the design

requirements referenced in the subsection from the various official sanctioning athletic bodies. ADEQ does not want to "freeze" these design requirements in time. If ADEQ incorporates by reference, it will not be able to consider updated versions of those requirements in making a determination as to whether to approve a special use pool. ADEQ therefore moved the content of subsection (B) into subsection (A). Under subsection (A), ADEQ the design requirements of the official sanctioning athletic bodies become a factor which the Department will consider when exercising its best professional judgement as to whether to approve a special use pool.

~~E~~ B. A special use pool that is designed with exercise or training bars in the pool shall be restricted to the special use when the bars are located in the pool. The bars shall:

1. ~~Bars shall be~~ Be constructed of durable and corrosion-resistant material.
2. ~~Bars shall be~~ Be sealed, welded shut, or capped at both ends to prevent retention of water within the bars.
3. Bars may be removable. ~~The Removable~~ bars ~~then~~ shall be wedge anchored in place ~~with a cover plate provided and the anchors shall be covered~~. Water-tight anchor plugs [95% efficiency] shall be provided when the bars are removed.
4. ~~Bars shall extend~~ Extend not more than ~~four~~ 4 inches from the side of the pool into the water. The minimum clear opening from the inside of the bar to the side of the swimming pool shall not be less than ~~two~~ 2 inches.

D. A special use pool that is designed with a ramp shall comply with the following:

1. The ramp shall be constructed of slip-resistant material;
2. The slope of the ramp shall not exceed 1 foot in ~~10~~ 12 feet;
3. The width of the ramp shall be at least 3 feet;
4. The ramp shall have a level platform at the top and the bottom of the ramp;
5. The ramp shall be equipped with at least a 3½ foot high guardrail installed on the deck and extending the length of the ramp;
6. The ramp shall be constructed with return inlets located on the pool and ramp walls along the length of the ramp.

ADEQ amended (D)(2) to be consistent with Americans for Disability Act requirements for ramp slopes. Other editorial changes made to this section were made in response to staff comments from the Governor's Regulatory Review Council.

~~R18-5-249~~ R18-5-250. Inspections

- A. An inspector from the Department, upon presentation of credentials, may enter into any public or semipublic swimming pool or spa to determine compliance with ~~the rules prescribed in~~ this Article. The inspector may inspect records, equipment, and facilities; take photographs; and take other action reasonably necessary to determine compliance with ~~the rules prescribed in~~ this Article.
- B. The owner or manager of a public or semipublic swimming pool or spa may accompany the inspector during ~~any~~ an inspection.
- C. An inspector from the Department may inspect a public or semipublic swimming pool or spa without giving prior notice of the inspection to the owner or ~~manager~~ operator of the swimming pool or spa.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

~~R18-5-250~~ R18-5-251. Enforcement

- A. If an inspector finds a violation of ~~any of the rules prescribed in~~ this Article, the Department may issue a notice of violation to the owner of a public or semipublic swimming pool or spa. A notice of violation shall state: ~~with specificity;~~ specifically the nature of the violation and shall allow a reasonable time for the owner to correct the violation ~~to be corrected~~.

- B. If the Director has reasonable cause to believe that a person has constructed a public or semipublic swimming pool or spa in violation of ~~the rules prescribed in~~ this Article, the Director may order the closure of the swimming pool or spa by issuing a cease and desist order ~~pursuant to~~ by following the procedures for abatement of environmental nuisances in A.R.S. §49-142.

ADEQ made editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

~~R18-5-251~~ R18-5-249. Variances

- A. The Department may grant a variance from a requirement prescribed in this Article upon a demonstration by the ~~owner of the public or semipublic swimming pool or spa~~ applicant that an alternative design, material, appurtenance, or technology is equivalent to a requirement prescribed in this Article. ~~A variance that is granted on the ground that an alternative design, material, appurtenance, or technology is equivalent~~ If a variance is granted, it shall be conditioned upon the applicant's use of the approved alternative.
- B. The ~~granting of a variance shall not result~~ Department shall not grant a variance that results in an unreasonable risk to the health of ~~persons who will use the~~ swimming pool or spa users.
- C. ~~A request for a variance shall be in writing~~ The applicant shall request a variance in writing, and ~~A~~ variance request shall contain the following information:
1. Identification of the requirement prescribed in this Article for which a variance is requested;
 2. Explanation of the reasons why the ~~owner~~ applicant cannot comply with the requirement ~~for which a variance is requested;~~
 3. A complete description of the alternative design, material, or technology to be installed and used in the swimming pool or spa, including design plans, specifications, and a description of the cost;
 4. A demonstration that the alternative design, material, or technology to be installed and used in the swimming pool or spa is equivalent to the requirement in this Article ~~for which the variance is requested~~ and will not result in an unreasonable risk to ~~the persons who will use the swimming pool or spa~~ users;
 5. A statement that the ~~owner~~ applicant will perform reasonable requirements prescribed by the

Department that are conditions of a variance.

- D. ~~A request for a variance shall be submitted~~ The applicant shall submit a request for a variance with an application for ~~an Approval to Construct~~ design approval. The Department shall determine whether the application for ~~an Approval to Construct~~ design approval and the variance request ~~is~~ are complete. Within 30 days ~~of~~ after the date of the submittal of the application for ~~an Approval to Construct~~ design approval and the variance request, the Department shall issue a written notice to the applicant ~~which~~ that states that the request for a variance and the application for ~~an Approval to Construct~~ is design approval are complete or which states that the request for a variance or the application for ~~an Approval to Construct~~ design approval is incomplete and identifies specific information deficiencies in the application ~~form, design plans, specifications,~~ for design approval or the variance request.
- E. The Department may convene an advisory committee consisting of representatives of public and semipublic swimming pool and spa owners, public and semipublic swimming pool and spa building contractors, professional engineers, and county environmental and health departments to make a recommendation on ~~any a~~ variance request.
- F. If the ~~decision is to grant~~ Department grants the request for a variance, ~~then~~ the Department shall identify the requirement for which the variance is granted, specify any conditions to the grant of a variance, and issue ~~an Approval to Construct~~ a design approval. If the Department ~~decides to deny~~ denies the request for a variance, ~~then~~ the Department shall issue a notice of intent to deny the request for a variance to the applicant. The notice shall state the reasons for the denial of the request for a variance and shall include a description of the applicant's right to request a hearing on the denial of the variance request pursuant to A.R.S. §41-1092.03 and to request an informal settlement conference pursuant to A.R.S. §41-1092.06. If the Department denies a request for a variance, ~~then~~ the Department may either deny the application for ~~an Approval to Construct~~ design approval or issue ~~an Approval to Construct~~ which a design approval that requires compliance with the requirement for which the variance is requested.

G. In considering a request for a variance from a requirement prescribed in this Article, the Director shall consider the following factors:

1. The intended use of the public or semipublic swimming pool or spa;
2. The safety of the alternative design, material, or technology for which a variance is requested; and
3. The cost and other economic considerations associated with requiring compliance with the requirement prescribed in this Article as compared to the alternative for which a variance is requested.

ADEQ changed "owner" to "applicant" and made other editorial changes to this section in response to staff comments from the Governor's Regulatory Review Council.

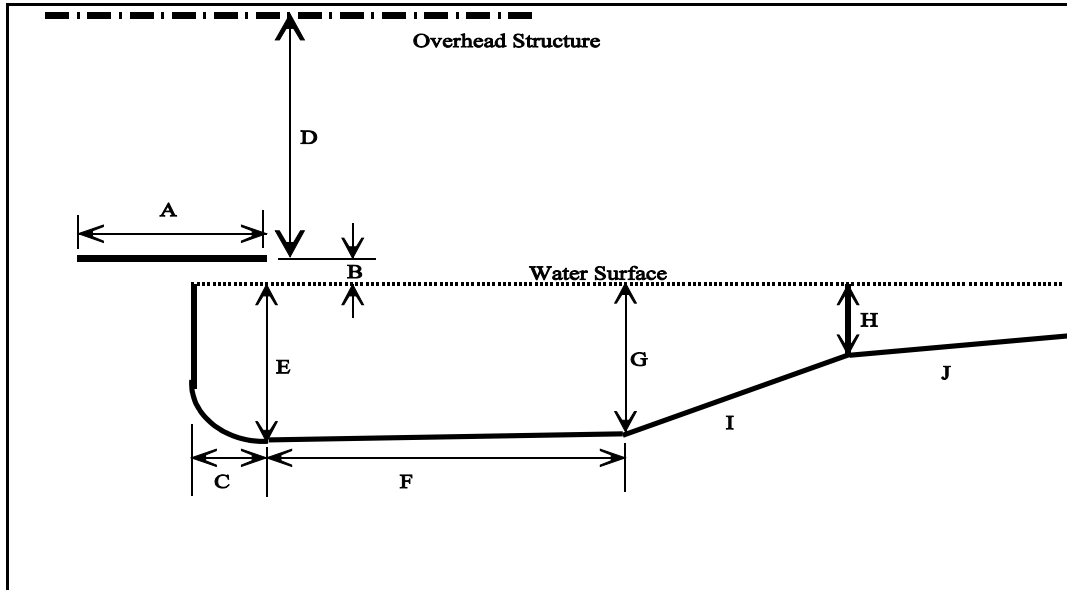
Appendix A:

Amended. Compare proposed design criteria in Appendix A on p. 82 with design criteria in Illustration A in the adopted rule on p. 83.

Appendix B. *Repealed [See p. 84]. ADEQ repealed the average width requirement for swimming pools.*

Appendix C. *No change except to rename Appendix C as Illustration B.*

ILLUSTRATION A. DIVING WELL DIMENSIONS FOR SWIMMING POOLS



Note: This profile does not apply to a special use pool that is designed for competitive diving.

A. Maximum length of diving board	10 feet
B. Maximum height of board above the water	20 inches
C. Overhang of the board from wall	Minimum: 2 feet Maximum: 3 feet
D. Minimum distance to an overhead structure	15 feet
E. Minimum depth of water at the plummet	9 feet
F. Distance from plummet to start of upslope	18 feet
G. Minimum depth of water at start of the upslope	Depth of water at plummet minus 6 inches
H. Depth of water at the breakpoint	Public swimming pool: 5 feet Semipublic swimming pool: 4 feet
I. Maximum slope: breakpoint towards deep end	1 foot of fall in 3 feet
J. Slope of bottom in shallow area	1 foot of fall in 10 feet
Minimum width of pool in diving area	20 feet
From plummet to pool wall at the side	10 feet

10. A summary of the principal comments and the agency response to them:

R18-5-203. Approval to Construct

Comment: The Approval to Construct process should allow phased approvals or specifically address design and build public swimming pool construction projects.

Response: ADEQ agrees. ADEQ revised the design approval process to allow phased approvals for design and build construction projects for public swimming pools [See R18-5-203(I) in the adopted rules].

R18-5-205. Prohibitions

Comment: ADEQ should add a prohibition in subsection (C) which states that no food or drink of any kind shall be allowed within the required walkways of the bathing place. Food and drink will be allowed within the pool enclosure but outside the area noted above provided that only paper or plastic service is used. No glassware is permitted within the enclosure.

Response: ADEQ disagrees. ADEQ does not have statutory authority to regulate the operation of public and semipublic swimming pools, spas, and other bathing places. The adopted rules address the design and construction of public and semipublic swimming pools and spas. They do not include provisions which regulate the day-to-day operation of public and semipublic swimming pools and spas. The Arizona Department of Health Services [ADHS] has jurisdiction to regulate the operation of public and semipublic swimming pools and spas under A.R.S. §36-136(H)(11). Prohibitions against the use of glassware within swimming pool and spa enclosures and prohibitions against food and drink within the deck area of a swimming pool or spa are properly included in ADHS rules which address the operation of public and semipublic swimming pools and spas.

R18-5-209. Shape

Comment: Why do the rules prescribe a minimum average width of 14 feet for a public or semipublic swimming pool? R18-5-209(C) seems inconsistent with R18-5-209(A) which states that no limits are

specified for the shape of a public or semipublic swimming pool or spa to minimize hazards to users and to provide adequate circulation.

Response: ADEQ agrees that the 14-foot minimum average width requirement is inconsistent with R18-5-209(A). Also, ADEQ cannot provide an adequate rationale for the 14-foot minimum average width requirement. The original reason may have been to ensure that there is sufficient width to a swimming pool to prevent injury to a person who may dive from one side of a swimming pool towards the opposite wall. However, the current rule does not provide this protection because it is an *average* width requirement and it does not require that all sides of a swimming pool be at least 14 feet apart. Under the current rule, average width is calculated by dividing the surface area of a swimming pool by its length [See Appendix B in proposed rules]. The current rule does not prohibit irregularly-shaped pools where the actual width of the swimming pool is less than 14 feet. The current rule only requires that the average width be 14 feet or more. Finally, the ANSI / NSPI standards for public swimming pools do not prescribe a minimum width for a swimming pool. ADEQ deleted the average width requirement because it does not provide protection from diving injuries and there are no voluntary national standards for the minimum width of a swimming pool.

R18-5-210. Walls

Comment: ADEQ should delete all references to wall plumb tolerances in this section.

Response: ADEQ agrees that references to wall plumb tolerances should not be included in the rules. While the American National Standards Institute / National Spa and Pool Institute [ANSI / NSPI] has published a national standard which addresses wall plumb tolerances [See ANSI / NSPI Standard for Public Swimming Pools §4.2], ADEQ has concluded that government regulation of wall plumb tolerances is impractical. Field inspectors who inspect the construction of public and semipublic swimming pool cannot practically determine whether swimming pool walls are within prescribed tolerances from a visual inspection.

Comment: R18-5-210(C)(3) states that an underwater seat in a public or semipublic swimming pool shall be completely recessed into the swimming pool wall. This would appear to allow underwater seats in the deep area of a swimming pool. The Pima County Health Code prohibits underwater seats in the deep end of a public or semipublic swimming pool. Seats and steps may be constructed only in the shallow end of the pool.

Response: ADEQ does not believe that underwater seats should be prohibited in the deep area of a swimming pool, especially in semipublic swimming pools. However, if underwater seats are located in the deep area of a public or semipublic swimming pool, then they should be either completely recessed in the swimming pool wall, shaped to be compatible with the shape of the swimming pool wall, or located in a corner of the swimming pool. ADEQ amended R18-5-210(C) to clarify this point and to be consistent with ANSI / NSPI Standards for Public Swimming Pools §4.8 and §4.81. These national standards state that underwater seats shall be located fully outside of the required minimum diving water envelope if the swimming pool is intended for use with diving equipment. The adopted rule allows underwater seats in the deep end of a swimming pool provided it meets the criteria stated above. Pima County may promulgate a more stringent swimming pool ordinance which prohibits underwater seats in the deep end of a swimming pool and which requires that underwater seats be located in the shallow end only.

R18-5-212. Floors

Comment: All shallow end pool floor slopes should be 1:10. The proposal to require 1:12 slopes in public swimming pools conflicts with the current Maricopa County and Pima County swimming pool ordinances which address floor slopes.

Response: ADEQ agrees that the slope of the floor in the shallow area of a swimming pool floor should be 1:10 for both public and semipublic swimming pools. ADEQ's proposal to require 1:12 slopes in the shallow area of a public swimming pool is based upon ANSI / NSPI Standard for Public Swimming Pools §4.3.2. §4.3.2 states that the slope of the floor in a competition or a public swimming pool, from the shallow end wall towards the deep end, shall not exceed one foot in twelve feet to the point of the first slope change. §4.3.2 also prescribes a 1:10 floor slope for a semipublic swimming pool. While a 1:10

floor slope for both public and semipublic swimming pools is inconsistent with §4.3.2, it is consistent with the floor slope requirement that is prescribed in the current state rules and in both Maricopa and Pima County's current swimming pool ordinances. ADEQ, Maricopa County, and Pima County have been implementing the 1:10 floor slope requirement for many years with no adverse impact on public health or safety. The adopted rule retains the current 1:10 floor slope requirement for both public and semipublic swimming pools to remain consistent with current county swimming pool ordinances.

Comment: R18-5-212(B) allows a one foot in two feet [1 ft. : 2 ft.] slope from the point of the first slope change to the deep part of the swimming pool. This slope is too steep in a swimming pool that is equipped for diving. It creates a wall for divers to hit. Also, for anyone walking past a rope and floatline at the point of slope change, it is too steep to walk on. Research from the last 15 years calls for a slope of one foot in three feet [1 ft. : 3 ft.].

Response: ADEQ agrees that the floor slope from the point of the first slope change to the deepest part of a public or semipublic swimming pool should not exceed 1 foot in 3 feet. A 1 foot in 3 feet floor slope is consistent with ANSI / NSPI Standard for Public Swimming Pools § 4.3.4. Finally, a 1 ft.: 3 ft. slope is consistent with the floor slope recommended in Illustration A for swimming pools that are equipped for diving.

R18-5-214. Steps

Comment: The proposed rules do not require that a set of steps be provided in the shallow end of a semipublic or public swimming pool. The Pima County Health Code requires that at least one set of steps be provided in the shallow end of each public or semipublic swimming pool [See Pima County Health Code §8.32.190(C)].

Response: ADEQ did not include a provision which requires a set of steps in the shallow end of every public and semipublic swimming pool. ADEQ drafted the proposed rule to provide more flexibility regarding entries and exits. The adopted rule requires that at least two means of entry and exit be provided in a public or semipublic swimming pool. The means of entry or exit may consist of ladders, steps, or

recessed treads, and they may be used in combination. This section of the adopted rules is a restatement of ANSI / NSPI Standard for Public Swimming Pools §5.2. The adopted rule also recognizes that areas in the shallow area of a swimming pool where the wall is 2 feet deep or less [e.g., a zero entry depth pool] provide a means of entry or exit. The adopted rule therefore permits the construction of a public or semipublic swimming pool with an artificial beach which does not have a set steps. Nothing in the rule requires Pima County to revise their local swimming pool ordinance which requires that a set of steps be located in the shallow end of the swimming pool. No change to the rule.

R18-5-217. Decks and Deck Equipment

Comment: R18-5-217(H) in the proposed rules requires that hose bibbs be provided along the perimeter of the deck so that all parts of the deck may be reached with a 50-foot hose. The Pima County Health Code has a similar requirement but does not prescribe the length of the hose that is used for wash down. Is it necessary to limit the length of the hose to 50 feet?

Response: It is not necessary to prescribe the length of the hoses that are used for wash down of deck area. The adopted rule simply requires that hose bibbs be provided along the perimeter of the deck so that all parts of the deck may be washed down. The adopted rule is more flexible and is consistent with the language of ANSI / NSPI Standard for Public Swimming Pools §5.1.20 which addresses hose bibbs.

R18-5-220. Depth Markers

Comment: The proposed rules require that depth markers be installed at 1-foot intervals to a depth of 5 feet and 2-foot depth intervals thereafter. The Maricopa and Pima County swimming pool codes require the installation of depth markers at 1-foot intervals to a depth of 5 feet and only a single depth marker at the deepest point after the 5 foot depth is reached.

Response: The proposed depth marker requirements are based upon ANSI / NSPI Standard for Public Swimming Pools §16.3.4 which recommends that depth markers be installed at intermediate increments of water depth not to exceed two feet where water depth is 5 feet or more. The adopted rule retains this depth marker requirement as proposed. ADEQ believes that requiring depth markers at every two feet of water

depth is a reasonable water safety requirement and is not unduly burdensome to swimming pool owners.

No change to the rules.

R18-5-222. Prohibition Against Diving; Warning Signs

Comment: R18-5-222(B) should be amended to allow warning signs with the international symbol for no diving instead of the words, “No Diving.”

Response: ADEQ agrees. ADEQ amended R18-5-222(B) to permit warning markers which use the international symbol for no diving instead of the words, “No Diving.”

R18-5-223. Water Circulation System

Comment: R18-5-223(F) states that the water circulation system in a public or semipublic swimming pool “shall be capable of operating continuously.” What does this mean?

Response: ADEQ agrees that the cited language in R18-5-223(F) is confusing. The language was an attempt by ADEQ to prescribe a minimum design criterion that was consistent with a continuous operation requirement in the current Maricopa County swimming pool ordinances. The Maricopa County Health Code requires that a water circulation system for a public or semipublic swimming pool operate continuously [See Maricopa County Health Code, Chapter VI, Section 3, Regulation 3(c)]. The adopted rule does not include the language related to continuous operation in R18-5-223(F). ADEQ deleted the language for several reasons. First, it is not clear how ADEQ could make a determination during an engineering design review that a water circulation system is *capable* of operating continuously. Presumably all water circulation systems are capable of running 24-hours a day if they if they are not equipped with time clocks and the power to them is left on. Second, the current Maricopa County ordinance on continuous operation is an operational requirement and not a minimum design standard. Finally, ADEQ questions whether a regulatory requirement to operate a water circulation system continuously would permit the use of time clocks which automatically shut down the water recirculation system during hours when the swimming pool or spa is not open to the public. For all these reasons, ADEQ deleted subsection (F) and did not include it in the adopted rule.

Comment: Why are time clocks not allowed as long as circulation, filtration, and chemical parameters are met? Why can't equipment be shut down automatically on non-operational hours?

Response: ADEQ agrees that time clocks on the water circulation system should be allowed. See response to previous comment.

Comment: The proposed rule states at R18-5-223(B) that the water circulation system for a wading pool shall have a turnover rate of at least once every hour. This requirement is inconsistent with the Pima County Health Code which permits a turnover rate for wading pools of once every two hours.

Response: The Pima County Health Code requirement for a turnover rate of two hours in a wading pool is consistent with the national standard recommended by ANSI / NSPI [See §6.2.1 in American National Standard for Public Swimming Pools, ANSI / NSPI-1, 1991]. However, ADEQ believes that a higher turnover rate is necessary for adequate disinfection of wading pool water that is used by small children. The one-hour turnover rate for wading pools is required by the current swimming pool rules in Title 9 and it is consistent with the turnover rate for wading pools that is required by the current Maricopa County Health Code [See Chapter VI, Section 8, Regulation 4]. No change to the rule.

R18-5-226. Drains and Suction Outlets

Comment: I disagree with the requirement in R18-5-226(A) that a public and semipublic swimming pool or spa shall be equipped with at least two main drains that are located at the deepest part, especially in a spa. A spa should have one drain on the floor and one on the leg wall for a greater degree of safety from hair and body entrapment.

Response: ADEQ agrees that R18-5-226(A) should be amended to delete the reference to public and semipublic spas. R18-5-226(A) in the proposed rules was intended to apply to public and semipublic swimming pools only. The commenter is correct that a minimum of two suction outlets should be provided in a spa and they should be separated by a minimum of three feet or located on two different planes [e.g. one on the floor of the spa and one on a vertical wall or one each on two separate vertical walls [See ANSI / NSPI Standard for Public Spas §9.5]. Since proposing these rules, ADEQ has become aware of an

alternative drain system that may be used in public and semipublic swimming pools and spas which effectively prevents user entrapment. The alternative drain system utilizes a single gravity drain which discharges to a surge tank. The single gravity drain system is plumbed so there is no suction at the drain. ADEQ amended the proposed rule at R18-4-226(A) to allow single gravity drain systems in swimming pools and spas as an alternative to the requirement to have two main drains.

R18-5-227. Filters

Comment: The proposed rule on filters states at R18-5-227(E)(1) that the maximum filtration rate for a high-rate sand filter shall not exceed 20 gallons / minute / square foot. This rate is inconsistent with the filtration rate prescribed in the Pima County Health Code. Pima County prescribes a maximum filtration rate for sand filters of 25 gallons / minute / square foot.

Response: ADEQ amended the maximum filtration rate for high rate sand filters to be consistent with the maximum filtration rate prescribed in the Pima County Health Code. ADEQ is aware that there are NSF-listed filters for commercial use which have maximum filtration rates that exceed 20 gallons / minute / square foot. The adopted rule prescribes a maximum filtration rate of 25 gallons./ minute / square foot to permit the use of such filters.

R18-5-228. Return Inlets

Comment: Return inlets should be spaced at 1 per 15 feet of wall perimeter, and not further than 5 feet from corners. A minimum of six return inlets should be provided.

Response: ADEQ disagrees. The adopted rule states at R18-5-228(B) that a public or semipublic swimming pool shall have a minimum of 2 return inlets regardless of the size of the swimming pool and that the number of return inlets shall be based on 2 return inlets per 600 square feet of surface area or fraction thereof. These minimum requirements for return inlets are identical to those published in ANSI / NSPI Standard for Public Swimming Pools §9.2. The ANSI / NSPI standards do not address the spacing of return inlets along the perimeter of a swimming pool or their placement relative to corners. The only spacing requirement in the adopted rule is that return inlets be installed in a way that produces a uniform

circulation of water throughout the swimming pool or spa, ADEQ believes that the way the ANSI / NSPI standard is expressed provides more regulatory flexibility. The adopted rule prescribes minimum requirements for return inlets that are consistent with the voluntary national standards for public and semipublic swimming pools. The adopted rule does not require Maricopa and Pima counties to amend their more stringent ordinances which require a minimum of six return inlets or which prescribe requirements for the location of return inlets relative to corners.

Comment: The proposed rule on return inlets states at R18-5-228(A) that where surface skimmers are used, return inlets shall be located so as to help bring floating particles within range of the surface skimmers. ADEQ should clarify that this does not apply to bottom returns.

Response: ADEQ agrees that bottom returns do not need to be located to help bring floating particles within range of the surface skimmers. ADEQ amended R18-5-228(A) to clarify that return inlets on vertical walls shall be located to help bring floating particles within range of the surface skimmers.

Comment: R18-5-228(C) requires that return inlets in a public or semipublic swimming pool shall be on a closed loop system. When floor returns are used, they should not require a closed loop system.

Response: ADEQ retained the requirement that all return intlets be on a closed loop system to be consistent with current Maricopa County swimming pool ordinances.

Comment: R18-5-228(D) states that bottom returns are considered to have an “area of influence” described by a radius of 15 feet. I do not think a 15-foot radius is correct. I believe floor returns should be placed no more than 15 feet apart.

Response: ADEQ did not include the sentence which states that bottom returns are considered to have an area of influence described by a radius of 15 feet in the adopted rules. R18-5-228(A) already requires that return inlets be designed, sized, and installed to produce uniform circulation throughout the swimming pool or spa. It is unnecessary to state an “area of influence” for bottom returns in the rule. Also, ADEQ is unsure whether the 15-foot radius for the area of influence of a bottom return is correct.

R18-5-232. Overflow Collection Systems

Comment: It is not clear why three or more surface skimmers must be on a closed loop system. Each is valved to control the flow in special areas of a swimming pool.

Response: Both the current Maricopa County Health Code and the Pima County Health Code require that surface skimmers be on a closed loop system [See Maricopa County Health Code, Chapter VI, Section 6, Regulation 2(d) and Pima County Health Code §8.32.190(B)(3)]. ADEQ retained this requirement to be consistent with current county swimming pool ordinances.

R18-5-234. Disinfection

Comment: Chlorine residual levels in spas should be maintained between 3 and 5 ppm to allow for the heavier bather load. In addition, current draft standards may propose 2 to 4 ppm as ideal for swimming pools and will de-emphasize the maximum end of the range in order to allow for elevation of chlorine levels in anticipation of heavy usage or other high demand situations or after shock treatment.

Response: ADEQ agrees that the free chlorine residual levels in a public or semipublic spa should be maintained between 3 and 5 parts per million. A range of 3-5 ppm is consistent with the ideal range for free chlorine residual that is recommended in the ANSI / NSPI Standard for Public Spas. ADEQ’s

proposed rule did not distinguish between disinfectant levels in swimming pools and spas. ADEQ added language to the rule to make this distinction and to require higher disinfectant residual levels in spas.

ADEQ maintained the free chlorine residual levels for public swimming pools at 1.0 to 3.0 ppm as originally proposed. The current guidelines for chemical operational parameters that are recommended in Appendix A of the ANSI / NSPI Standard for Public Swimming Pools [ANS/NSPI-2 1992] state that the ideal range for free chlorine residual in a public swimming pool is 1.0 to 3.0 ppm. While the American National Standards Institute [ANSI] may be considering raising the ideal range for free chlorine residual in public swimming pools to 2- 4 ppm in draft standards, the ANSI draft standards are not final. The ANSI standards approval process requires a verification that there is consensus with regard to each standard. According to ANSI, consensus is established when, in the judgment of the ANSI Board of Standards, substantial agreement has been reached by directly and materially affected interests. According to ANSI, “Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered and that a concerted effort be made towards their resolution.” Consensus has not been established for the draft standards, including the proposal to raise the ideal range for chlorine residual in public swimming pools to 2-4 ppm. ADEQ will consider appropriate revisions to the minimum design standards for public swimming pools, including the ideal range for chlorine residual, if new consensus standards are published by ANSI / NSPI.

Comment: Bromine residual is currently at 3 to 5 ppm for public spas in the ANSI / NSPI standard, again to allow for more efficacy against the more demanding bather load. Higher levels are being considered for recommendation in the draft ANSI / NSPI standards, partly in response to public health officials who see this as a way to increase the safety of pools.

Response: ADEQ agrees that the bromine residual requirements in R18-5-234(A)(2) need to be amended to distinguish between bromine disinfection in swimming pools and spas. ADEQ agrees that the bromine

residual levels for public spas should be specified in the rule and established at 3-5 ppm, as recommended in the ANSI / NPSI Standard for Public Spas.

Comment: There is a mistake in the proposed R18-4-234(A)(3). ADEQ should consider the following:

“Chlorinated isocyanurates, if used, shall be fed so as to maintain between 1 and 5 ppm available chlorine. Cyanuric acid levels, whether from the chlorinated isocyanurates or from separate addition of the cyanuric acid stabilizer, shall not exceed 100 ppm.” Many public health departments in areas where the sun is strong permit levels of cyanuric acid to build to 150 ppm before requiring partial draining. In Arizona, you may want to consider allowing the higher level.

Response: ADEQ agrees that R18-5-234(A)(3) should be amended as recommended by the commenter, with the following changes: “Chlorinated isocyanurates, if used, shall be fed so as to maintain required disinfectant residual levels. Cyanuric acid levels, whether from the chlorinated isocyanurates or from the separate addition of cyanuric acid stabilizer, shall not exceed 150 ppm.”

Comment: R18-5-234(C) is vague. It states that combined chlorine disinfection of water in a public or semipublic swimming pool or spa is prohibited.

Response: ADEQ agrees that R18-5-234(C) is vague and should be amended. ADEQ intended to prohibit the use of chloramines as a primary disinfectant in public and semipublic swimming pools in R18-5-234(C). Chloramines are recommended as a secondary disinfectant in drinking water distribution systems to provide a disinfectant residual and to prevent the regrowth of bacteria in the system. However, chloramines are a weak cysticidal disinfectant and even poorer virucide. Therefore, the contact times and the concentration required for adequate disinfection with chloramines are much longer and higher than with chlorine disinfection. In general, chloramines are formed from the combination of ammonia and chlorine. The generation of chloramines requires the same equipment as chlorination [gaseous or aqueous hypochlorination] plus equipment for adding ammonia. Thus, chloramine disinfection is both more expensive and less effective than chlorine disinfection. For all of these reasons, the adopted rule states that the use of chloramines as a primary disinfectant is prohibited in a public or semipublic swimming pool or

spa.

Comment: R18-4-234(D) should be revised. I would suggest the following: “Direct addition of undissolved or concentrated disinfectant to the bather area of the pool or spa shall be avoided when the pool is in use. The addition of gaseous disinfectant directly into a public pool or spa is prohibited. Chlorine gas disinfection systems shall not be used for the disinfection of water in public or semipublic spas.” In this way, the rule could not be read to disallow the use of broadcast liquid or dry disinfectants for shock treatment of the pool or spa after hours. Shocking the pool and especially the spa with an effective oxidizing disinfectant is recommended in order to remove bather wastes, algae, and other microorganisms. This practice helps to keep the water and recirculation system clear of potentially harmful organisms and is recommended as a daily practice for some spas. In addition, direct addition of concentrated disinfectant may be appropriate when there is a fecal accident at a pool or spa. In this case, bathers should be cleared from the immediate area and direct addition of disinfectant used at the site of the accident. The direct addition of gaseous chlorine or ozone to the pool or spa tank is a separate issue and is probably not appropriate for routine use in any public or semipublic pool or spa.

Response: ADEQ agrees that R18-5-234(D) should be revised so it does not prohibit the direct addition of undissolved or concentrated disinfectant for shock treatment of a public or semipublic swimming pool or spa. The adopted rule includes a sentence which clarifies that the use of chemicals for shock treatment of a swimming pool or spa is permitted.

Comment: There is a typographical error at the end of the seventh line in R18-5-234(F)(2). It should read “least.”

Response: ADEQ corrected the noted typographical error in the adopted rule.

Comment: The proposed rule states that the chlorine room fans shall be capable of completely changing the air in the room at least 1 time a minute. The proposed rule also requires that self-contained breathing apparatus be available and an ammonia bottle for chlorine leak detection. These requirements are inconsistent with the current Pima County Health Code requirements which require a turnover rate of 10 times a minute in the chlorine room. The Pima County Code has no requirements for the availability of self-contained breathing apparatus or ammonia bottles.

Response: The proposed requirement for an air change turnover rate of once per minute in the chlorine room is based upon recommendations for the use of elemental chlorine that are included in an appendix to the American National Standard for Public Swimming Pools [See §2.4 in Appendix D]. ANSI / NSPI recommends that the chlorine room be equipped with "a motor-driven exhaust fan capable of producing at least one air change per minute." ADEQ retained this requirement in the adopted rule for this reason. ADEQ eliminated requirements for maintaining self-contained breathing apparatus and ammonia bottles for chlorine leak detection. While both of these requirements are included in the previously mentioned recommendations for the use of elemental chlorine in Appendix D to voluntary national standard for public swimming pools [See §2.9 and §3.7 in Appendix B], ADEQ is concerned about the safety of swimming pool personnel who may attempt to use such equipment without proper training.

R18-5-236. Wastewater Disposal

Comment: It is not all that uncommon for pool water to be run out onto the ground. To assure no surface discharge of swimming pool or spa water occurs, include a statement such as "There shall be no discharge of filter backwash and wasted swimming pool or spa water onto the surface of the ground." There also needs to be some guidance on sites where a sewer system is available, however, the municipality or entity operating the system will not allow the pool to discharge into it due to the system being at capacity or any other reason. Can they be mandated by ADEQ or the county to tie in?

Response: ADEQ disagrees that there should be a blanket prohibition against the discharge of filter backwash and wasted swimming pool or spa water onto the surface of the ground. There may be circumstances where the discharge of filter backwash water or swimming pool or spa water to the surface

of the ground is the only available disposal option. ADEQ believes that the rule on the disposal of filter backwash and used swimming pool water should provide flexibility to take into account the existence of local ordinances which may restrict some disposal options. In particular, ADEQ does not agree that the rule should be written in a way that would force a municipality or sanitary district to accept filter backwash water or used swimming pool or spa water when a local sewer system or a wastewater treatment plant is at or over capacity or where the discharge of filter backwash water may interfere with wastewater treatment plant operations.

R18-5-238. Lifesaving and Safety Equipment

Comment: The proposed rule requires that each public swimming pool have at least two ring buoys. This is inconsistent with §8.32.190(I) of the Pima County Health Code which requires at least one ring buoy and one rescue tube for each lifeguard chair.

Response: The proposed rule that each public swimming pool have at least two ring buoys is based upon the current Maricopa County swimming pool ordinance on required safety equipment at public swimming pools [See Maricopa County Health Code, Chapter VI, Section 6, Regulation 9]. However, the proposed rule and both the county ordinance require more than the current ANSI /NSPI Standard for Public Swimming Pools which relates to lifesaving equipment. ANSI / NSPI Standards for Public Swimming Pools §§ 16.5.1 and 16.5.1.1 state that public swimming pools shall have lifesaving equipment “conspicuously and conveniently on hand at all times” including “a minimum one-fourth inch diameter throwing rope as long as one and one-half times the maximum width of the pool or fifty feet, whichever is less, to which has been firmly attached a ring buoy with an outside diameter of 15 inches or a similar flotation device.” ADEQ adopted this ANSI / NSPI language as a minimum requirement which does not conflict with current county ordinances related to lifesaving equipment.

R18-5-240. Barriers

Comment: Add “self-closing” and “self-latching” to R18-5-240(F)(3). Also, delete the alarm system requirement in this subsection.

Response: ADEQ agrees that the words, “self-closing” and “self-latching,” should be added to R18-5-240(F)(3). Both terms are used in ANSI / NSPI Standard for Public Swimming Pools §16.6.1 which relates to barriers. The terminology also is used in the current Maricopa and Pima county ordinances which relate to fencing and barriers in public and semipublic swimming pools [See Maricopa County Health Code, Chapter VI, Section 6, Regulation 11(5); Maricopa County Health Code, Chapter VI, Section 7, Regulation 2(c); and Pima County Health Code, §8.32.200(B)(1)(b)]. ADEQ also agrees that the alarm requirement should be deleted.

Comment: R18-5-240(C) states that the spacing between vertical members of a barrier shall not exceed one and three quarters inches in width. This appears to be inconsistent with the statement in R18-5-240(B)(3) which states that fences or walls shall have no openings or spaces of such size that a spherical object four inches in diameter can pass through. Also, if vertical members are placed 1 3/4 inches on center, it would leave only a 3/4 inch gap on standard one-inch wrought iron. The same problem is found in R18-5-240(G).

Response: ADEQ agrees that R18-5-240(C) and (G) are incorrect. The adopted rule states the spacing of vertical members shall be of such size that a spherical object four inches in diameter cannot pass through.

R18-5-244. Wading Pools

Comment: R18-5-244(H) states that return inlets in a wading pool shall be provided every ten feet around the periphery of the wading pool. The rule as proposed would not permit floor returns in a wading pool.

Response: ADEQ agrees that R18-5-244(H) should be amended to clarify that floor returns may be used in a wading pool. The adopted rule states that return inlets shall be provided and arranged to produce a uniform circulation of water and maintain a uniform disinfectant residual throughout the wading pool.

R18-5-248. Special Use Pools

Comment: R18-5-248(D)(2) states that the slope of a ramp in a special use pool shall not exceed one foot in ten feet. This slope exceeds the American With Disabilities Act [ADA] requirement for slopes and ramps. The Technical Committee has now advised a 1 foot in 12 feet slope to comply with ADA requirements.

Response: ADEQ agrees. The adopted rule prescribes a 1 foot in 12 feet slope for ramps in special use pools to ensure compliance with American With Disabilities Act requirements.

R18-5-251. Variances

Comment: To assure consistency statewide with variances, there must be only one variance committee for ADEQ, possibly the one utilized by Maricopa County. We need to keep local politics out of dictating or interpreting these rules.

Response: ADEQ agrees that there should be only one variance committee to implement the variance rule statewide. The adopted rule does not authorize the establishment of local variance committees.

Comment: The variance process as outlined is too time-consuming and would cause unnecessary delay to the swimming pool industry. At present, Maricopa County averages 20 to 30 variances a year. This section should be rewritten to permit delegation of the variance authority to qualified counties.

Response: ADEQ disagrees that the variance procedure is too time-consuming or would cause unnecessary delay. The variance rule prescribes a 30-day time frame for making a completeness determination on a variance request. However, the variance rule does not prescribe any time frame for completing the substantive review of a variance request and making a decision to grant or deny a variance request. ADEQ amended the rule to include a 30-day substantive review time frame. ADEQ disagrees that the variance section needs to be rewritten to permit delegation. It is not necessary to include rule language which authorizes the delegation of authority to administer or enforce individual sections of the swimming pool and spa rules.

Appendix A

Comment: Appendix A needs to be reviewed for technical accuracy to eliminate confusion to the designers and regulatory officials. There are several inconsistencies between Appendix A and the requirements of the proposed rules. A couple of examples: “D” in Appendix A is confusing because it does not show the slope from to the main drain from point M. “E” in Appendix A states that the inclination of the upslope from the bottom of the swimming pool is one foot in three feet. However, the text of the proposed rules states that the slope of the floor of a public or semipublic swimming pool from the point of the first slope change to the deep part of the swimming pool is one foot in two feet in a pool that is equipped for diving [See R18-5-212(B)]. “F” in Appendix A states that the depth of the water at the breakpoint from the shallow end to the deep end is four feet. However, R18-5-212(C) states that in a public or semipublic swimming pool that is equipped for diving, the depth of the swimming pool at the point of the first slope change shall be a minimum of 5 feet. “L” in Appendix A states that the minimum length of a swimming pool is 40 feet. According to my calculations, given the required floor slopes and the minimum dimensions that are prescribed in the proposed rules and in Appendix A, no public or semipublic swimming pool could be 40 feet in length. I calculate the minimum length for a public or semipublic swimming pool that is equipped for diving at between 46 - 47 feet.

Response: ADEQ agrees that there are several inconsistencies between Appendix A and the requirements of the proposed rules. ADEQ completely revised Appendix A in the adopted rules to eliminate the inconsistencies and errors cited in the comment [Compare Illustration A].

Operation and Maintenance

Comment: It is disappointing that ADHS has not proceeded forward with rules on maintenance and operation. It is difficult for Coconino County to support ADEQ with submission of these rules until such time as ADHS has completed their portion and it is submitted simultaneously.

Response: ADEQ does not have the statutory authority to regulate the operation and maintenance of public and semipublic swimming pools and spas. A.R.S. §49-104(B)(12) provides the legal authority for ADEQ to regulate public and semipublic swimming pools and bathing places. This statute gives ADEQ the

authority to:

Prescribe reasonably necessary measures to prevent the pollution of water used in public or semipublic swimming pools and bathing places and to prevent deleterious conditions at such places. The rules shall prescribe minimum standards for the design of and for sanitary conditions at any public or semipublic swimming pool or bathing place and provide for abatement as public nuisances of premises and facilities which do not comply with the minimum standards. The rules shall be developed in cooperation with the director of the department of health services and shall be consistent with the rules adopted by the director of health services pursuant to section 36-136, subsection H, paragraph 11.

ADEQ's statutory authority must be read with A.R.S. §36-136(H)(11), a similar statute which provides the legal authority for the Arizona Department of Health Services [ADHS] to regulate public and semipublic swimming pools and spas. A.R.S. §36-136(H)(11) states that the Director of ADHS shall:

Prescribe reasonably necessary measures to prevent pollution of water in public and semipublic swimming pools and bathing places and to prevent deleterious health conditions at such places. The rules shall prescribe minimum standards for sanitary conditions which shall be maintained at any public or semipublic swimming pool or bathing place.

The ADEQ and ADHS statutes use parallel language. It is clear from the wording of the two statutes that the Legislature intended that ADEQ regulate the construction and design of public and semipublic swimming pools and bathing places and that ADHS regulate their operation and maintenance.

Natural and Semi-Artificial Bathing Places

Comment: We are disappointed that this area was completely excluded by ADEQ, especially after meeting several times with the County Environmental Health Directors and hearing our support and request for some minimum standards. We strongly feel that if people are encouraged to swim and recreate

at natural bathing sites, such as along the Colorado River, Oak Creek, Salt River, etc. and bathers are a potential source of contamination, then at a minimum, restroom and lavatory facilities should be made available.

Response: Neither the proposed nor the adopted rules address natural and semi-artificial bathing places.

ADEQ stated in oral proceedings and in other public meetings that the establishment of minimum design standards and engineering design reviews may not be the most appropriate or efficient way to regulate natural and semi-artificial bathing places or to address public health concerns that relate to their use.

ADEQ has recommended that the current Title 9 rule which addresses natural and semi-artificial bathing places be retained. ADEQ also recommends that ADHS consider amendments to the current Title 9 rule or the adoption of new rules to establish operational standards for natural and semi-artificial bathing places, including public beaches and other heavily-used natural bathing places like Slide Rock in Oak Creek Canyon. No change to the rules.

11. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

12. Incorporations by reference and their location in the rules:

- a. American National Standard / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan (revised July 1996) in R18-5-223(C), R18-5-227(D), and R18-5-234(H).
- b. American National Standard / NSF International Standard Number 14, "Plastics Piping System Components and Related Materials," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan (revised July 1996) (revised September, 1996) in R18-5-224(H).

13. Was this rule previously adopted as an emergency rule? No.

14. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 5. DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL REVIEWS AND CERTIFICATION

ARTICLE 2. PUBLIC AND SEMIPUBLIC SWIMMING POOLS AND SPAS

Section

R18-5-201.	Definitions
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R18-5-203.	Design Approval
R18-5-204.	Approval of Construction
R18-5-205.	Prohibitions
R18-5-206.	Water Source
R18-5-207.	Construction Materials
R18-5-208.	Maximum Bathing Load
R18-5-209.	Shape
R18-5-210.	Walls
R18-5-211.	Freeboard
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R18-5-214.	Steps
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R18-5-217.	Decks and Deck Equipment
R18-5-218.	Lighting
R18-5-219.	Water Depths
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R18-5-221.	Diving Areas and Equipment

R18-5-222.	Prohibition Against Diving; Warning Signs
R18-5-223.	Water Circulation System
R18-5-224.	Piping and Fittings
R18-5-225	Pumps and Motors
R18-5-226.	Drains and Suction Outlets
R18-5-227.	Filters
R18-5-228.	Return Inlets
R18-5-229.	Gauges
R18-5-230.	Flow Meter
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ARTICLE 2. PUBLIC AND SEMIPUBLIC SWIMMING POOLS AND SPAS

R18-5-201. Definitions

1. “Air induction system” means a system whereby a volume of air is induced into a hollow ducting in a spa floor, bench, or wall. An air induction system is activated by an air power blower and is separate from the water circulation system.
2. “Artificial lake” means a manmade lake, lagoon, or basin, lined or unlined, with a surface area equal to or greater than 2 acres (87, 120 square feet), that is used or intended to be used for water contact recreation.
3. “Backwash” means the process of thoroughly cleaning a filter by the reverse flow of water through the filter.
4. “Barrier” means a fence, wall, building, or landscaping that obstructs access to a public or semipublic swimming pool or spa.
5. "Cartridge filter" means a depth, pleated, or surface-type filter component with fixed dimensions that is designed to remove suspended particles from water flowing through the filter.
6. "Construct" means to build or install a new public or semipublic swimming pool or spa or to enlarge, deepen, or make a major modification to an existing public or semipublic swimming pool or spa.
7. "Coping" means the cap on a swimming pool or spa wall that provides a finished edge around the swimming pool or spa.
8. “Cross-connection” means any physical connection or structural arrangement between a potable water system and the piping system for a public or semipublic swimming pool or spa through which it is possible to introduce used water, gas, or any other substance into the potable water system. A bypass arrangement, jumper connection, removable section, swivel or change-over device, or any other temporary or permanent device that may cause backflow is a cross-connection.
9. “Deck” means a hard surface area immediately adjacent or attached to a swimming pool or spa that is designed for sitting, standing, or walking.
10. “Deep area” means the portion of a public or semipublic swimming pool that is more than 5 feet in depth.
11. “Discharge piping” means the portion of the circulation system that carries water from the filter back to the

- swimming pool or spa.
12. "Diving area" means the area of a public or semipublic swimming pool that is designated for diving from a diving board, diving platform, or starting block.
 13. "Fill-and-draw swimming pool or spa" means a swimming pool or spa where the principal means of cleaning is the complete removal of the used water and its replacement with potable water.
 14. "Filtration rate" means the rate of water flowing through a filter during the filter cycle expressed in gallons per minute per square foot of effective filter area.
 15. "Flow-through swimming pool or spa" means a swimming pool or spa where new water enters the swimming pool or spa to replace an equal quantity of water that constantly flows out.
 16. "Freeboard" means the vertical wall section of a swimming pool or spa wall between the waterline and the deck.
 17. "Hose bibb" means a faucet with a threaded nozzle to which a hose may be attached.
 18. "Hydrotherapy jet" means a fitting that blends air and water and creates a high-velocity, turbulent stream of air-enriched water for injection into a spa.
 19. "Make-up water" means fresh water used to fill or refill a swimming pool or spa.
 20. "Maximum bathing load" means the design capacity or the maximum number of users that a public or semipublic swimming pool or spa is designed to hold.
 21. "Natural bathing place" means a lake, pond, river, stream, swimming hole, or hot springs which has not been modified by man.
 22. "Operate" means to run, maintain, or otherwise control or direct the functioning of a public or semipublic swimming pool or spa.
 23. "Overflow collection system" means equipment designed to remove water from a swimming pool or spa, including gutters, overflows, surface skimmers, and other surface water collection systems of various designs and manufacture.
 24. "Potable water" means drinking water.
 25. "Private residential spa" means a spa at a private residence used only by the owner, members of the owner's family, and invited guests, or a spa that serves a housing group consisting of no more than 3 living

- units [e.g., duplexes or triplexes].
26. “Private residential swimming pool” means a swimming pool at a private residence used only by the owner, members of the owner's family, and invited guests, or a swimming pool that serves a housing group consisting of no more than 3 living units [e.g., duplexes or triplexes].
27. “Public spa” means a spa that is open to the public with or without a fee, including a spa that is operated by a county, municipality, political subdivision, school district, university, college, or a commercial establishment whose primary business is the operation of a spa.
28. “Public swimming pool” means a swimming pool that is open to the public with or without a fee, including a swimming pool that is operated by a county, municipality, political subdivision, school district, university, college, or a commercial establishment whose primary business is the operation of a swimming pool.
29. "Recessed treads" means a series of vertically spaced, preformed stepholes in a swimming pool wall.
30. “Return inlet” means an aperture or fitting through which filtered water returns to a swimming pool or spa.
31. “Rope and float line” means a continuous line not less than 3/4 inch in diameter that is supported by buoys and attached to opposite sides of a swimming pool to separate areas of the swimming pool.
32. “Semiartificial bathing place” means a natural bathing place that has been modified by man.
33. “Semipublic spa” means a spa operated for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks, or similar establishments. A semipublic spa includes a spa that is operated by a neighborhood or community association for the residents of the community and their guests and any spa at a country club, health club, camp, or similar establishment where the primary business of the establishment is not the operation of a spa and where the use of the spa is included in the fee for the primary use of the establishment.
34. “Semipublic swimming pool” means a swimming pool operated for the residents of lodgings such as hotels, motels, resorts, apartments, condominiums, townhouse complexes, trailer courts, mobile home parks, or similar establishments. A semipublic swimming pool includes a swimming pool that is operated by a neighborhood or community association for the residents of the community and their guests and a swimming pool at a country club, health club, camp, or similar establishment where the primary business

of the establishment is not the operation of a swimming pool and where the use of the swimming pool is included in the fee for the primary use of the establishment.

- 35. "Shallow area" means the portion of a public or semipublic swimming pool that is 5 feet or less in depth.
- 36. "Slip-resistant" means a surface that has a static coefficient of friction [wet or dry] of at least 0.50.
- 37. "Spa" means an artificial basin, chamber, or tank of irregular or geometric shell design that is intended only for bathing or soaking and that is not drained, cleaned, or refilled for each user. A spa may include features such as hydrotherapy jet circulation, hot water, cold water mineral baths, or an air induction system. Industry terminology for a spa includes "hydrotherapy pool," "whirlpool," "hot tub," and "therapy pool."
- 38. "Special use pool" means a swimming pool intended for competitive aquatic events, aquatic exercise, or lap swimming. A special use pool includes a wave action pool, exit pool for a water slide, swimming pool that is part of an attraction at a water recreation park, water volleyball pool, or a swimming pool with special features used for training and instruction.
- 39. "Suction outlet" means the aperture or fitting through which water is withdrawn from a swimming pool or spa.
- 40. "Suction piping" means the water circulation system piping that carries water from a swimming pool or spa to the filter.
- 41. "Swimming pool" means an artificial basin, chamber, or tank that is designed for swimming or diving.
- 42. "Turnover rate" means the number of hours required to circulate a volume of water equal to the capacity of the swimming pool or spa.
- 43. "User" means a person who uses a swimming pool, spa, or adjoining deck area.
- 44. "Wading pool" means a shallow swimming pool used for bathing and wading by small children.
- 45. "Water circulation system" means an arrangement of mechanical equipment connected to a swimming pool or spa by piping in a closed loop that directs water from the swimming pool or spa to the filtration and disinfection equipment and returns the water to the swimming pool or spa.
- 46. "Water circulation system components" means the mechanical components that are part of a water circulation system of a swimming pool or spa, including pumps, filters, valves, surface skimmers, ion

generators, electrolytic chlorine generators, ozone process equipment, and chemical feeding equipment.

47. “Water level” means either:

1. On swimming pools and spas with skimmer systems, the midpoint of the operating range of the skimmers, or
2. On swimming pools and spas with overflow gutters, the height of the overflow rim of the gutter.

R18-5-202. Applicability

A. This Article applies to public and semipublic swimming pools and spas.

B. This Article does not apply to the following:

1. A private residential swimming pool or spa,
2. A swimming pool or spa used for medical treatment or physical therapy and supervised by licensed medical personnel,
3. A semi-artificial bathing place,
4. A natural bathing place, or
5. An artificial lake.

R18-5-203. Design Approval

A. A person shall obtain design approval from the Department before starting construction of:

1. A new public or semipublic swimming pool or spa;
2. A major modification to an existing public or semipublic swimming pool or spa. For purposes of this subsection, a major modification means a change to the shape, depth, water circulation system, or disinfection system of a public or semipublic swimming pool or spa or the installation of diving equipment at a public or semipublic swimming pool;
3. A change in use from a semipublic swimming pool to a public swimming pool; and
4. A change in use from a private residential swimming pool to a public or semipublic swimming pool.

B. An applicant for a design approval shall submit an ADEQ application form to the Department in

quadruplicate with four complete sets of plans and specifications for the swimming pool or spa and the information in subsection (C).

- C. The application for design approval shall include 4 copies of the following:
1. A general plot plan;
 2. Plans and specifications showing the size, shape, cross-section, slope, and dimensions of each swimming pool or spa, deck areas, and barriers;
 3. Plans and specifications showing the water circulation and disinfection systems, including all piping, fittings, drains, suction outlets, filters, pumps, surface skimmers, return inlets, chemical feeders, disinfection equipment, gauges, flow meters, and strainers;
 4. Plans and specifications showing the source of water supply and the method of disposal of filter backwash water; used swimming pool or spa water, and wastewater from toilets, urinals, sinks, and showers.
 5. Detailed plans of bathhouses, dressing rooms, equipment rooms, and other appurtenances; and
 6. Additional data required by the Department for a complete understanding of the project.
- D. A professional engineer, architect, or a swimming pool or spa contractor with a current A-9, A-19, KA-5, KA-6 license shall prepare or supervise the preparation of all plans and specifications submitted to the Department for review.
- E. An applicant shall submit an application for design approval to the Department at least 60 days prior to the date that the applicant wishes to begin construction of a swimming pool or spa.
- F. The Department shall determine whether the application for design approval is complete within 30 days of the date of receipt of the application by the Department.
- G. The Department shall issue or deny the application for design approval within 30 days of the date that the Department determines that the application for design approval is complete.
- H. Unless an extension of time is granted in writing by the Department, a design approval is void if construction is not started within 1 year after the date of its issuance or there is a halt in construction of more than 1 year,
- I. The Department may issue a design approval with conditions. The Department shall not issue an Approval

of Construction if the design approval is conditioned and the construction of the swimming pool or spa does not comply with the stated conditions.

J. The Department may issue design approvals in phases to allow a political subdivision to start construction of a public swimming pool or spa without issuing a design approval for the entire construction project. A design approval may be issued in phases provided all of the following conditions are met:

1. A phased design approval is needed to accommodate a design / build contract, phased construction contract, multiple construction contracts, turnkey contract, or special contract that requires construction to begin prior to the completion of design plans and specifications for the entire public swimming pool or spa construction project.
2. The applicant submits a detailed project description for the entire public swimming pool or spa construction project to the Department.
3. There is a written agreement between the applicant and the Department which includes the following:
 - a. A construction project schedule,
 - b. A schedule to submit applications and supporting documentation for the phased design approval including any anticipated variance requests,
 - c. Negotiated time frames for administrative completeness and substantive review of each application for phased design approval, and
 - d. A schedule of construction inspections by the Department or third party certifications by the applicant.
4. The applicant certifies in writing that the applicant understands that the public swimming pool or spa cannot be operated without an Approval of Construction for each phase of the construction project pursuant to R18-5-204.
5. If the applicant and the Department cannot reach agreement regarding a phased design approval or Approval of Construction, then the requirements of R18-5-203(A) through (I) and R18-5-204 apply.

R18-5-204. Approval of Construction

- A. A public or semipublic swimming pool or spa shall not operate without receiving an Approval of Construction issued by the Department.
- B. The construction of a public or semipublic swimming pool or spa shall conform to plans and specifications that have been approved by the Department. If the applicant wishes to make a change to the approved plans and specifications, the applicant shall submit revised plans and specifications with a written statement of the reasons for the change to the Department. The applicant shall obtain Department approval of the revised plans and specifications before starting any work affected by the change.
- C. Prior to any construction that will cover the piping arrangement of the swimming pool or spa and at least 30 days prior to the expected date of completion of construction of a public swimming pool or spa, the applicant shall notify the Department to permit a construction inspection. The Department shall inspect the construction of a swimming pool or spa to determine if the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions unless a professional engineer, architect, or registered sanitarian certifies that the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions.
- D. If the swimming pool or spa has been constructed in accordance with Department-approved plans, specifications, and conditions, the Department shall issue the Approval of Construction within 30 days of the date of the construction inspection by the Department or the date the Department receives third party certification.

R18-5-205. Prohibitions

- A. A fill-and-draw swimming pool or spa shall not be used as a public or semipublic swimming pool or spa.
- B. A private residential spa shall not be used as a public or semipublic spa.

R18-5-206. Water Source

Only water from a source that is approved by the Department shall be used in a public or semipublic swimming pool or spa. Reclaimed wastewater shall not be used as make-up water for a public or semipublic swimming pool or spa.

R18-5-207. Construction Materials

- A. A public or semipublic swimming pool or spa shall be constructed of concrete or other structurally rigid material that is equivalent in strength or durability to concrete, except that a public or semipublic spa may be constructed of fiberglass or acrylic.
- B. A public or semipublic swimming pool or spa shall be constructed of materials that are nontoxic.
- C. A public or semipublic swimming pool or spa shall be constructed of waterproof materials that provide a watertight structure.
- D. A public or semipublic swimming pool or spa shall have a smooth and easily cleaned surface, without cracks or joints, excluding structural joints, or to which a smooth, easily cleaned surface finish is applied or attached.
- E. All corners in a public or semipublic swimming pool or spa shall be rounded, including the corners formed by the intersection of a wall and floor.
- F. A surface within a public or semipublic swimming pool or spa intended to provide footing for users shall have a slip-resistant surface. The roughness or irregularity of the surface shall not cause injury or discomfort to users' feet during normal use.
- G. The color, pattern, or finish of the interior of a public or semipublic swimming pool or spa shall not obscure objects, surfaces within the swimming pool or spa, debris, sediment, or algae. Surface finishes shall be white, pastel, or other light color. The interior finish shall completely line the swimming pool or spa to the coping, tile, or gutter system.

R18-5-208. Maximum Bathing Load

- A. The maximum bathing load for a public or semipublic swimming pool or spa shall not be exceeded.
- B. The maximum bathing load for a public or semipublic swimming pool shall be calculated as the sum of the following:
 - 1. The shallow area of the swimming pool in square feet ÷ 10 square feet, +
 - 2. The deep area of the swimming pool in square feet - 300 square feet for each diving board ÷ 24

square feet.

- C. The maximum bathing load for a public swimming pool shall be limited by the number of users for the toilets, showers, or lavatories that are provided in the bathhouses or dressing rooms prescribed in R18-5-242.
- D. The maximum bathing load for a public or semipublic spa shall not exceed the area of the spa in square feet ÷ nine square feet.
- E. The maximum bathing load for a public or semipublic swimming pool or spa shall be posted.

R18-5-209. Shape

- A. A public or semipublic swimming pool or spa may be any shape except that the designer shall shape a public or semipublic swimming pool or spa to minimize hazards to users and provide adequate circulation of swimming pool or spa water.
- B. There shall be no protrusions, extensions, means of entanglement, or other obstructions in a public or semipublic swimming pool or spa that may cause entrapment of or injury to the user. This subsection does not prohibit water features such as water fountains, slides, water play equipment, or water volleyball and basketball nets.

R18-5-210. Walls

- A. Where a racing lane terminates in a swimming pool, the wall shall be plumb to a minimum depth of 5 feet below the waterline. Below the 5-foot depth, the wall shall be radiused to join the floor.
- B. There shall be no projections from a swimming pool or spa wall except for coping, cantilevered deck, ladders, and steps.
- C. An underwater seat shall comply with the following:
 - 1. The edges of an underwater seat shall be outlined with a sharply contrasting colored tile or other material that is clearly visible from the deck adjacent to the underwater seat;
 - 2. An underwater seat shall have a slip-resistant surface;
 - 3. An underwater seat shall be located outside of the deep area of a swimming pool that is equipped

for diving. An underwater seat may be located in the deep area of a swimming pool that is not equipped for diving provided the underwater seat is either completely recessed into the swimming pool wall, shaped to be compatible with the shape of the swimming pool wall, or in a corner of the swimming pool;

4. The maximum depth of an underwater seat is 24 inches below the waterline. The minimum depth of an underwater seat is 12 inches below the waterline; and
 5. The maximum width of an underwater seat is 20 inches.
- D. If a spa is located immediately adjacent to a swimming pool, the separating wall between the spa and the swimming pool shall be no more than 8 inches wide. The top of the separating wall shall be no lower than the level of the coping of the swimming pool. If a separating wall is more than 8 inches wide, then the deck width shall comply with R18-5-217(D). A spa shall not be located immediately adjacent to the deep area of a swimming pool.
- E. Coping or cantilevered deck may project from a swimming pool or spa wall to provide a handhold for users. The coping or deck shall be rounded, have a slip-resistant surface finish, and shall not exceed 3½ inches in thickness. The overhang of the coping or deck shall not exceed 2 inches or be less than 1 inch.

All corners created by coping or cantilevered deck shall be rounded in both the vertical and horizontal dimensions to eliminate sharp corners.

R18-5-211. Freeboard

- A. The freeboard in a public or semipublic swimming pool or spa shall not exceed 8 inches, except as provided in subsection (B).
- B. The freeboard in a semipublic swimming pool may exceed 8 inches to provide for walls, terraces, or other design features. The Department shall review each request to allow an increase in freeboard on a case-by-case basis. In reviewing the request, the Department shall consider safety, exit distances, alternative exits, and location. The length and height of the section where the freeboard area may be increased is limited.

All of the following requirements shall be met:

- 1. Guard rails or similar devices are provided to prevent any raised area from being used as a diving platform.
- 2. The vertical surfaces of the freeboard area are constructed of inorganic materials. All vertical surfaces shall be rigid, smooth, and easily cleanable.
- 3. The horizontal surface areas comply with the provisions of this Article for decks.
- 4. The vertical surface area is included as surface area of the swimming pool to determine the type, size, location, and numbers of equipment and piping.

R18-5-212. Floors

- A. The slope of the floor of a public or semipublic swimming pool, from the end wall in the shallow area towards the deep area to the point of the first slope change shall be uniform and shall not exceed 1 foot of fall in 10 feet. The floor slope in a public or semipublic spa shall not exceed 1 foot of fall in 10 feet.
- B. The floor slope of a public or semipublic swimming pool, from the point of the first slope change to the deepest part of the swimming pool, shall not exceed 1 foot of fall in 3 feet.
- C. For a public or semipublic swimming pool that is equipped for diving, the depth of the swimming pool at the point of the first slope change shall be a minimum of 5 feet. For a public or semipublic swimming pool

that is not equipped for diving, the depth of the swimming pool at the point of the first slope change shall be a minimum of 4 feet.

- D. All portions of a swimming pool or spa floor shall slope towards a main drain.
- E. The transitional radius where the floor of a public or semipublic swimming pool joins a wall shall comply with the following:
 - 1. The center of the radius shall be no less than 3 feet below the waterline in the deep area or 2 feet below the waterline in the shallow area.
 - 2. The radius shall be tangent at the point where the radius meets the wall or floor.
 - 3. The radius shall be equal to or greater than the depth of the swimming pool minus the vertical wall depth measured from the waterline minus 3 inches.

R18-5-213. Entries and Exits

- A. Each public or semipublic swimming pool shall have at least 2 means of entry or exit consisting of ladders, steps, or recessed treads.
- B. There shall be at least 1 ladder, set of steps, or set of recessed treads for each 75 feet of perimeter of a public or semipublic swimming pool or spa.
- C. At least 1 means of entry and exit shall be provided in the deep area and at least 1 means of entry and exit shall be provided in the shallow area of a public or semipublic swimming pool. Where the water depth is 2 feet at the swimming pool wall in the shallow area or where there is a zero depth entry pool [e.g., an artificial beach], the area shall be considered a means of entry or exit.
- D. A set of steps shall be provided in a public or semipublic spa.
- E. The location of stairs, ladders, and recessed treads shall not interfere with racing lanes.

R18-5-214. Steps

- A. Each set of steps shall be provided with at least 1 handrail to serve all treads and risers. Handrails shall be provided at 1 side or in the center of all steps. Handrails shall be installed in such a way that they can be removed only with tools.
- B. Steps shall be permanently marked to be clearly visible from above and below the water level in a swimming pool or spa. The edges of steps shall be outlined with a sharply contrasting colored tile or other material that is clearly visible from the deck adjacent to the steps.
- C. Steps may be constructed only in the shallow area of a public or semipublic swimming pool.
- D. Steps shall not project into a public or semipublic swimming pool or spa in a manner that creates a hazard to users.
- E. All tread surfaces on steps shall have slip-resistant surfaces.
- F. Step treads shall have a minimum unobstructed horizontal depth of 10 inches. Risers shall have a maximum uniform height of 12 inches, with the bottom riser height allowed to vary ± 2 inches from the uniform riser height.

R18-5-215. Ladders

- A. At least 1 ladder shall be provided in the deep area of a public or semipublic swimming pool. If the width of the deep area of a swimming pool is greater than 20 feet, then 2 ladders shall be located on opposite sides of the deep area.
- B. A swimming pool or spa ladder shall be equipped with 2 handrails.
- C. All treads on ladders shall have slip-resistant surfaces.
- D. Ladder treads shall have a minimum horizontal depth of 1½ inches. The distance between ladder treads shall range from a minimum of 7 inches to a maximum of 12 inches.
- E. Below the waterline, there shall be a clearance of not more than 6 inches and not less than 3 inches between any ladder tread edge and the wall as measured from the side of the tread closest to the wall.

R18-5-216. Recessed Treads

- A. Recessed treads with handrails may be substituted for ladders.
- B. Recessed treads shall be pre-formed, readily cleanable, and designed to drain into the swimming pool or spa to prevent the accumulation of dirt in the recessed treads.
- C. Each set of recessed treads shall be equipped with 2 handrails.
- D. All recessed treads shall have slip-resistant surfaces.
- E. The vertical distance between the swimming pool or spa coping edge or deck and the uppermost recessed tread shall be a maximum of 12 inches. Recessed treads at the centerline shall have a uniform vertical spacing of 12 inches maximum and 7 inches minimum.
- F. Recessed treads shall be at least 5 inches deep and 12 inches wide.

R18-5-217. Decks and Deck Equipment

- A. Decks, ramps, coping, and similar step surfaces shall be constructed of concrete or other inorganic material, have a slip-resistant finish, and be easily cleanable.
- B. The minimum continuous unobstructed deck width, including the coping, shall be 10 feet for a public swimming pool and 4 feet for a semipublic swimming pool. The dimensional design of decks at public and semipublic swimming pools shall comply with the dimensions shown in Illustration B.
- C. A minimum 5 feet of deck width shall be provided on the sides and rear of any diving equipment at a public swimming pool. A minimum 4 feet of deck width shall be provided on the sides and rear of any diving equipment at a semipublic swimming pool. If diving equipment is installed at a public swimming pool, there shall be a minimum 15 feet of deck width from the swimming pool wall to the edge of the deck behind the diving equipment [See Illustration B].
- D. A continuous unobstructed deck width of at least 4 feet, which may include the coping, shall be provided on at least two contiguous sides and around at least 50% of the perimeter of a public or semipublic spa.
- E. Decks shall be sloped to effectively drain either to perimeter areas or to deck drains. Drainage shall remove splash water, deck cleaning water, and rain water without leaving standing water. The minimum slope of the deck shall be $\frac{1}{4}$ inch per 1 foot. The maximum slope of the deck shall be 1 inch per 1 foot, except for ramps.

- F. Decks shall be edged to eliminate sharp corners.
- G. Site drainage shall be provided to direct all perimeter deck drainage and general site and roof drainage away from a public or semipublic swimming pool or spa. Yard drains may be required to prevent the accumulation or puddling of water in the general area of the deck and related improvements.
- H. Hose bibbs shall be provided along the perimeter of the deck so that all parts of the deck may be washed down. At a minimum, each hose bibb shall be protected against back siphonage with an atmospheric vacuum breaker. The Department may approve quick disconnect style hose bibbs.
- I. Any valve that is installed in or under any deck shall provide a minimum 10-inch diameter access cover and a valve pit to facilitate the repair and maintenance of the valve.
- J. Joints in decks shall be provided to minimize the potential for cracks due to changes in elevations or movement of the slab. The maximum voids between adjoining concrete slabs or between concrete slabs and expansion joint material shall be 3/16 inch of horizontal clearance with a maximum difference in vertical elevation of 1/4 inch. Areas where the deck joins concrete shall be protected by expansion joints to protect the swimming pool or spa from the pressures of relative movements. Construction joints where pool or spa coping meets the deck shall be watertight and shall not allow water to pass through to the underlying ground.

R18-5-218. Lighting

- A. A public or semipublic swimming pool or spa and adjacent deck areas shall be lighted by natural or artificial means when they are in use.
- B. A public or semipublic swimming pool or spa that is intended to be used at night shall be equipped with artificial lighting that is designed and spaced so that all parts of the swimming pool or spa, including the bottom, may be seen without glare.

R18-5-219. Water Depths

- A. Except as provided in subsection (B), the minimum water depth in the shallowest area of a public or semipublic swimming pool shall be 2 feet. The maximum water depth in the shallowest area of a public or

semipublic swimming pool shall be 3 feet. In public swimming pools, where racing lanes terminate, the minimum depth shall be 5 feet from the water level to the point where the vertical wall is radiused to join the floor.

- B. The Department may approve a depth of less than 2 feet in a wading pool or to allow a zero depth entry swimming pool.
- C. The maximum water depth in a public or semipublic spa shall be 42 inches, measured from the water level.

R18-5-220. Depth Markers

- A. Water depths shall be conspicuously and permanently marked at or above the water level on the vertical wall and on the top of the coping or the edge of the deck next to a swimming pool.
 - 1. Depth markers on a vertical wall shall be positioned to be read from the water side.
 - 2. Depth markers on a deck shall be located within 18 inches of the side of the swimming pool and positioned to be read while standing on the deck facing the water. Depth markers that are located on a deck shall be made of slip-resistant materials.
- B. Depth markers for a public or semipublic swimming pool shall be installed at points of maximum and minimum water depth and at all points of slope change. Depth markers are required in the shallow area at 1-foot depth intervals to a depth of 5 feet. Thereafter, depth markers shall be installed at 2-foot depth intervals. Depth markers shall not be spaced at distances greater than 25 feet.
- C. Depth markers shall be located on both sides and at both ends of a public or semipublic swimming pool.
- D. Depth markers shall be in Arabic numerals with a 4-inch minimum height. Arabic numerals shall be of contrasting color to the background.
- E. In public swimming pools with racing lanes, approach warning markers shall be placed below the water level on the opposite walls at the ends of each racing lane. Warning markers shall be of contrasting color to the background. Warning markers shall be clearly visible in or out of the water from a minimum distance of 10 feet.
- F. The shallow area of a public swimming pool shall be visually set apart from the deep area of the pool by a rope and float line.

- G. Depth markers for a public or semipublic spa shall comply with all of the following:
1. A public or semipublic spa shall have permanent depth markers with numbers that are a minimum of 4 inches high. Depth markers shall be plainly and conspicuously visible from all points of entry.
 2. The maximum depth of a public or semipublic spa shall be clearly indicated by depth markers.
 3. There shall be a minimum of 2 depth markers at each public or semipublic spa.
 4. Depth markers shall be spaced at no more than 25 foot intervals and shall be uniformly located around the perimeter of the spa.
 5. Depth markers shall be positioned on the deck within 18 inches of the side of the spa. A depth marker shall be positioned so that it can be read by a person standing on the deck facing the water.
 6. Depth markers that are on deck surfaces shall be made of slip-resistant material.

R18-5-221. Diving Areas and Equipment

- A. The dimensions of a diving area in a public or semipublic swimming pool shall comply with minimum requirements for length, width, depth, area, and other dimensions specified in Illustration A. The diving well profile in Illustration A does not apply to a special use pool that is intended for competitive diving and has been approved by Department pursuant to R18-5-248(A).
- B. Diving equipment shall be permanently anchored to the swimming pool deck. Equipment shall be rigidly constructed with sufficient bracing to insure stability. Supports, platforms, steps, and ladders for diving equipment shall be designed to carry anticipated loads.
- C. All diving stands higher than 21 inches, measured from the deck to the top of the board, shall be provided with stairs or a ladder.
- D. Diving equipment shall have a durable finish. The surface finish shall be free of tears, splinters, or cracks that may be a hazard to users.
- E. Steps and ladders leading to diving boards and diving platforms shall be of corrosion-resisting materials and shall have slip-resistant tread surfaces. Step treads shall be self-draining.
- F. Diving boards, diving platforms, and starting blocks shall have slip-resistant tread surfaces.

- G. Handrails shall be provided at all steps and ladders leading to diving boards that are 1 meter or more above the water.
- H. Diving boards and diving platforms that are 1 meter or higher shall be protected with guard rails. Guard rails shall be at least 30 inches above the diving board or diving platform and shall extend to the edge of the swimming pool wall.
- I. A label shall be permanently affixed to a diving board and shall include the following:
 - 1. Manufacturer's name and address;
 - 2. Board length; and
 - 3. Fulcrum setting instructions.
- J. The maximum diving board height over the water is 3 meters. The maximum height of a diving platform over the water is 10 meters.
- K. Starting blocks shall be located in the deep end of a public swimming pool or where the depth of the water is at least 5 feet.
- L. There shall be a completely unobstructed clear vertical distance of 13 feet above any diving board measured from the center of the front end of the board. This clear, unobstructed vertical space shall extend horizontally at least 8 feet behind, 8 feet to each side, and 16 feet ahead of the front end of the board.

R18-5-222. Prohibition Against Diving; Warning Signs

- A. Diving equipment is prohibited in a public or semipublic swimming pool that does not meet the minimum diving well dimensions specified in Illustration A. If a public or semipublic swimming pool does not meet the dimensional requirements prescribed in Illustration A for diving, then the owner shall prominently display at least one sign that cautions users that the swimming pool is not suitable for diving. The warning sign shall state "NO DIVING" in letters that are 4 inches or larger or display the international symbol for no diving.
- B. Diving from the deck of a public or semipublic swimming pool into water that is less than 5 feet deep shall be prohibited. Warning markers indicating in words or symbols that diving is prohibited shall be placed on the deck within 18 inches of the side of the shallow area of the swimming pool. A warning marker shall be

positioned so that it can be read by a person standing on the deck facing the water.

R18-5-223. Water Circulation System

- A. A public or semipublic swimming pool or spa shall have a water circulation system that provides complete circulation of water through all parts of the swimming pool or spa and can maintain water chemistry and water clarity requirements.
- B. The water circulation system for a public or semipublic swimming pool shall have a turnover rate of at least once every 8 hours. The water circulation system of a public or semipublic spa shall have a turnover rate of at least once every 30 minutes. The water circulation system for a wading pool shall have a turnover rate of at least once every hour. The water circulation system shall be designed to give the proper turnover rate without exceeding the maximum filtration rate for the filter in R18-4-227(E).
- C. Water circulation system components shall comply with American National Standard / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised July, 1996, and no future editions] which is incorporated by reference and on file with the Office of the Secretary of State and the Department.
- D. Water circulation system components shall be accessible for inspection, repair, or replacement.
- E. Except as provided by this subsection, water withdrawn from a public or semipublic swimming pool or spa shall not be returned unless it has been filtered and adequately disinfected. Water may be withdrawn from a swimming pool for a water slide or a water fountain without being filtered or disinfected.
- F. In a swimming pool complex with more than one swimming pool or where there is a combination of swimming pools and spas, each swimming pool and spa shall have a separate water circulation system.
- G. Hydrotherapy jets or other devices which create roiling water or similar effects in a spa shall not be connected to the water circulation system, but shall be operated through a separate system.

R18-5-224. Piping and Fittings

- A. The water velocity in discharge piping for public and semipublic swimming pools and spas shall not

exceed 10 feet per second, except for copper discharge piping where the velocity shall not exceed 8 feet per second. The water velocity in suction piping shall not exceed 6 feet per second. Piping shall be sized to permit the rated flows for filtering and cleaning without exceeding the maximum head of the pump.

- B. Water circulation system piping and fittings shall be constructed of materials that are able to withstand 150% of normal operating pressures. Suction piping shall be of sufficient strength so that it does not collapse when there is a complete shutoff of flow on the suction side of the pump. A licensed Arizona contractor shall conduct an induced static hydraulic pressure test of the water circulation system piping at 25 pounds per square inch for at least 30 minutes. The pressure test shall be performed before the deck is poured. Pressure in the water circulation system piping shall be maintained during the deck pour.
- C. Water circulation piping and fittings shall be made of nontoxic, corrosion-resistant materials.
- D. Water circulation piping and fittings shall be installed so that piping or fittings do not project into a public or semipublic swimming pool or spa in a manner that is hazardous to users.
- E. Piping that is subject to damage by freezing shall have a uniform slope in one direction and shall be equipped with valves that will permit the complete drainage of the water in the swimming pool or spa.
- F. Piping shall be designed to drain the swimming pool or spa water by removing drain plugs, manipulating valves, or other means.
- G. Piping systems shall be identified by color or by stencils or labels located at conspicuous points.
- H. Plastic water circulation piping shall comply with American National Standard / NSF International Standard Number 14, "Plastics Piping System Components and Related Materials," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised September, 1996 and no future editions] which is incorporated by reference and on file with the Office of the Secretary of State and the Department.

R18-5-225. Pumps and Motors

- A. A pump and motor shall be provided for each water circulation system. The pump shall be sized to meet but not to exceed the flow rate required for filtering against the total head developed by the complete water circulation system. The pump shall be sized to comply with the turnover rate prescribed in R18-4-223(B).

- B. Pumps and motors shall be readily and easily accessible for inspection, maintenance, and repair. When the pump is below the waterline, valves shall be installed on permanently connected suction and discharge lines. The valves shall be readily and easily accessible for maintenance and removal of the pump.
- C. Each motor shall have an open, drip-proof enclosure. Each motor shall be constructed electrically and mechanically to perform satisfactorily and safely under the conditions of load in the environment normally encountered in swimming pool or spa installations. Each motor shall be capable of operating the pump under full load with a voltage variation of $\pm 10\%$ from the nameplate rating. Each motor shall have thermal or current overload protection to provide locked rotor and running protection. Thermal or current overload protection may be built into the motor or in the line starter.
- D. The pump shall be equipped with an emergency shut-off switch that is located within the swimming pool or spa enclosure to cut off power to the water circulation system if someone is entrapped on a main drain or suction outlet.

R18-5-226. Drains and Suction Outlets

- A. A public and semipublic swimming pool shall be equipped with at least 2 main drains located in the deepest part of the swimming pool or a single gravity drain that discharges to a surge tank.
- B. Each main drain shall be covered by a grate that is not be readily removable by users. The openings in the grate shall have a total area that is at least 4 times the area of the drain pipe.
- C. The spacing of the main drains shall not be greater than 20 feet on centers and not more than 15 feet from each side wall.
- D. A minimum of 2 suction outlets shall be provided for each pump in a suction outlet system for a public or semipublic spa. The suction outlets shall be separated by a minimum of 3 feet or located on 2 different planes [i.e. 1 suction outlet on the bottom and 1 on a vertical wall or 1 suction outlet each on 2 separate vertical walls]. The suction outlets shall be plumbed to draw water through them simultaneously through a common line to the pump. Suction outlets shall be plumbed to eliminate the possibility of entrapping suction.
- E. If the suction outlet system for a public or semipublic swimming pool or spa has multiple suction outlets

that can be isolated by valves, then each suction outlet shall protect against user entrapment by either an antivortex cover, a grate, or other means approved by the Department.

- F. A public or semipublic spa may be equipped with a single gravity drain which discharges to a surge tank instead of suction outlets. The total velocity of water through grate openings of the drain shall not exceed two feet per second.

R18-5-227. Filters

- A. Filters shall be designed, located, and constructed to permit removal of filter manhole covers or heads for inspection, replacement, or repair of filter elements or filter media. No filtration system shall be installed beneath the surface of the ground or within an enclosure without providing adequate access for inspection and maintenance.
- B. Pressure-type filters shall be equipped with a means to release internal pressure. Each pressure filter shall be equipped with an air relief piping system connected at an accessible point near the crown. Automatic air relief systems may be used instead of manual systems. The design of a filter with an automatic air relief system as its principal means of air release shall include lids that provide a slow and safe release of pressure. The design of a separation tank used in conjunction with any filter tank shall include a manual means of air release or a lid which provides a slow and safe release of pressure as it is opened.
- C. Pressure filter systems shall be equipped with a sight glass installed on the waste discharge pipe.
- D. Swimming pool and spa filters shall comply with American National Standard / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised July, 1996 and no future editions] which is incorporated by reference and on file with the Office of the Secretary of State and the Department.
- E. The maximum filtration rate shall not exceed the design flow rate prescribed by the National Sanitation Foundation Standard 50 for commercial filters. In no case shall the maximum filtration rate exceed the following:
 - 1. The rate of filtration in a high-rate sand filter shall not exceed 25 gallons/minute/square foot.

2. The rate of filtration of a diatomaceous earth filter shall not exceed 2 gallons/minute/square foot.
3. The rate of filtration of a cartridge filter shall not exceed 0.375 gallons/minute/square foot.

R18-5-228. Return Inlets

- A. Adjustable return inlets shall be provided for each public and semipublic swimming pool or spa. Return inlets shall be designed, sized, and installed to produce a uniform circulation of water throughout the swimming pool or spa. Where surface skimmers are used, return inlets on vertical walls shall be located to help bring floating particles within range of the surface skimmers.
- B. A public or semipublic swimming pool shall have a minimum of 2 return inlets, regardless of the size of the swimming pool. The number of return inlets shall be based on 2 return inlets per 600 square feet of surface area, or fraction thereof.
- C. Return inlets in a public or semipublic swimming pool shall be on a closed loop piping system. Public or semipublic spas with 3 or more return inlets shall be on a closed loop piping system.
- D. Where the width of a public or semipublic swimming pool exceeds 30 feet, bottom returns shall be required. Bottom returns shall be flush with the pool bottom or designed to prevent injury to users.

R18-5-229. Gauges

- A. Pressure gauges shall be installed on the water circulation system for each public and semipublic swimming pool and spa. Pressure gauges shall be installed in accessible locations where they can be read easily.
- B. Pressure gauges shall be installed on the inlet and outlet manifold of the filter. Pressure gauges shall read at intervals of 1 pound per square inch [psi].

R18-5-230. Flow meter

A public swimming pool shall be equipped with, a flow meter which indicates the rate of backwash through the filter. The flow meter shall be installed between the pump and the filter on a straight section of pipe in accordance with the manufacturer's specifications in a location where it can be read easily. The flow meter shall measure the

rate of flow through the filter in gallons per minute and shall be accurate to within 5% under all conditions of flow.

The flow meter shall have an indicator with a range of at least 150% of the normal flow rate.

R18-5-231. Strainers

The water circulation system shall include a removable strainer located upstream of the pump to prevent solids, debris, hair, or lint from reaching the pump and filters. The strainer shall be made of corrosion-resistant material.

A strainer shall have openings that have a total area which is equal to at least 4 times the area of the suction piping.

R18-5-232. Overflow Collection Systems

- A. An overflow collection system shall be installed in each public or semipublic swimming pool or spa.
- B. The overflow collection system shall be designed and constructed so that the water level of the swimming pool is maintained at the mid-point of the operating range of the system's rim or weir device.
- C. Rim type overflow collection systems shall be installed on at least 2 opposite sides and have a total length of at least 50% of the perimeter of a public or semipublic swimming pool. The overflow collection system shall be capable of carrying 50% of the design capacity of the water circulation system.
- D. If overflow gutters are used, they shall be installed continuously around the swimming pool with the lip of the gutter level throughout its perimeter. Overflow gutters shall be provided with sufficient opening at the top and width at the bottom to permit easy cleaning. The overflow gutter bottom shall be pitched $\frac{1}{4}$ inch per foot to drainage outlets located not more than 10 feet apart. Outlet piping shall be sized to circulate at least 50% of the capacity of the water circulation system and be properly covered by a drain grate. The surge tank for the overflow gutters shall be equipped with float controls which regulate the main drain, fill line, and overflow. The system surge capacity shall not be less than 1 gallon for each square foot of swimming pool surface area. Stainless steel gutters and other specialty gutter systems may be used if they are hydraulically equivalent to overflow gutters.
- E. Surface skimmers shall be recessed into the swimming pool or spa wall and shall be installed to achieve effective skimming action throughout the swimming pool or spa.
 - 1. A surface skimmer shall be provided for each 400 square feet of surface area, or fraction thereof,

of a public or semipublic swimming pool. A minimum of two surface skimmers are required in a public or semipublic swimming pool. A surface skimmer shall be provided for each 200 square feet of surface area, or fraction thereof, of a public or semipublic spa.

2. The overflow slot shall be set level and shall not be less than 8 inches in width at the narrowest section.
 3. The rate of flow through the skimmers shall be a minimum of 75% of the water circulation system capacity. Surface skimmers shall be designed to carry at least 30 gallons per minute per lineal foot of weir throat.
 4. Where 3 or more surface skimmers are used, they must be on a closed loop piping system.
 5. At least 1 surface skimmer shall be located on the side or near the corner of the swimming pool that is downwind of the area's prevailing winds.
 6. Main drain piping shall be designed to carry at least 50% of the design flow.
- F. Mixed inlet types [e.g., surface skimmers and gutters] are prohibited in a public or semipublic swimming pool.

R18-5-233. Vacuum Cleaning Systems

A vacuum cleaning system shall be provided for each public and semipublic swimming pool. A vacuum cleaning system shall not create a hazard or interfere with the operation or use of the swimming pool. In integral systems, a sufficient number of vacuum cleaner fittings shall be located in accessible positions at least 10 inches below the water line. Alternatively, vacuum cleaner fittings may be installed as an attachment to the surface skimmers. A pressure cleaning system may be installed in addition to the required vacuum cleaning system.

R18-5-234. Disinfection

- A. An adjustable automatic chemical feeder shall be provided to ensure the continuous disinfection of the water in a public or semipublic swimming pool or spa. Timers on disinfection equipment are prohibited. Disinfection shall be accomplished by chlorination or by another method that is approved by the Department. The method of disinfection shall effectively maintain an adequate disinfectant residual in the

water which is subject to field testing by methods that are easy to use and accurate.

1. Chlorine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a free chlorine residual of 1.0 to 3.0 ppm.. Chlorine disinfection equipment for a public or semipublic spa shall be designed to maintain a free chlorine residual of 3.0 to 5.0 ppm.
 2. Bromine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a bromine residual of 2.0 to 4.0 ppm. Bromine disinfection equipment for a public or semipublic spa shall be designed to maintain a bromine residual of 3.0 to 5.0 ppm.
- B. The use of chlorinated isocyanurates or cyanuric acid stabilizer for disinfection and stabilization is permitted. If used, chlorinated isocyanurates shall be fed so as to maintain required disinfectant residual levels. Cyanuric acid levels, whether from chlorinated isocyanurates or from the separate addition of cyanuric acid stabilizer, shall not exceed 150 ppm.
- C. The use of chloramines as a primary disinfectant of swimming pool or spa water is prohibited.
- D. The addition of gaseous disinfectant directly into a public or semipublic swimming pool is prohibited. The addition of dry or liquid disinfectant directly into a public or semipublic swimming pool or spa for routine disinfection is prohibited. This prohibition does not prohibit the use of liquid or dry disinfectants for shock treatment of a swimming pool or spa. A chlorine gas disinfection system shall not be used for the disinfection of water in a public or semipublic spa.
- E. A common chlorine gas disinfection system may be utilized in separate swimming pools if separate metering and feeding devices are provided for each swimming pool.
- F. If gaseous chlorine is used for disinfection, the following shall be provided:
1. The chlorinator, chlorine cylinders, and associated chlorination equipment shall be located in a separate well-ventilated enclosure at or above ground level. The enclosure shall be reasonably gas-tight, noncombustible, and corrosion-resistant. The door of the enclosure shall open to the outside and shall not open directly toward the swimming pool.
 2. If chlorination equipment is placed in a room, then an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion-resistant louvers to a safe outside location. A gravity ventilation

system shall be designed and constructed to discharge to the outside from floor level. Fresh air intakes shall be located no closer than 3 feet above the ventilation discharge. Chlorine room exhausts shall be directed away from the swimming pool to an area which is normally unoccupied. Chlorine room fans shall be capable of completely changing the air in the room at least once a minute.

3. Electrical switches to control lighting and ventilation in the chlorine room shall be located on the outside of the enclosure and adjacent to the door.
 4. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent them from falling. Chlorine cylinders may be stored indoors or out. If stored outside, chlorine cylinders shall not be stored in direct sunlight. Chlorine cylinders shall not be stored near an elevator, ventilation system, or heat source.
 5. A warning sign shall be placed on the outside of the door to the chlorine room which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3 inches high or larger. The door to the chlorine room shall be provided with a shatter resistant inspection window.
 6. Chlorinators shall be a solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere. Chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.
- G. Granular, tablet, stick, and other forms of dry disinfectant shall be fed by an adjustable automatic feeding device.
- H. Disinfection equipment and chemical feeders shall comply with the requirements set forth in American National Standard / NSF International Standard 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan [revised July, 1996 and no future editions] which is incorporated by reference and on file with the Office of the Secretary of State and the Department.
- I. If a chemical feeder is used, it shall be installed to inject solution downstream from the filter and the heater. An erosion-type feeder may be installed to feed solution to the suction side of the pump. A chemical

feeder shall be wired so it cannot operate unless the filter pump is running.

R18-5-235. Cross-Connection Control

- A. Cross-connections between the distribution system of a public water system and the water circulation system of a public or semipublic swimming pool or spa are prohibited.
- B. Potable water for make-up water purposes may be introduced into a public or semipublic swimming pool or spa in any of the following ways:
 - 1. Through an over-the-rim spout with an air-gap of at least twice the diameter of the pipe and not less than 6 inches above the overflow level. If an over-the-rim spout is used, it shall be located so that it does present a tripping hazard. The open end of an over-the-rim spout shall have no sharp edges and shall not protrude more than 2 inches beyond the edge of the swimming pool or spa wall;
 - 2. Through a float controlled make-up water feed tank with an air gap of at least 3 inches above the overflow level; or
 - 3. Through a submerged inlet that is protected against backsiphonage by at least a pressure vacuum breaker that is installed so that the bottom of the backflow prevention assembly is a minimum of 12 inches above the level of the coping.

R18-5-236. Disposal of Filter Backwash , Wasted Swimming Pool or Spa Water, and Wastewater

All sewage from plumbing fixtures, including urinals, toilets, lavatories, showers, drinking fountains, floor drains, and other sanitary facilities shall be disposed of in a sanitary manner. Filter backwash and wasted swimming pool or spa water shall be discharged into a sanitary sewer through an approved air gap, an approved subsurface disposal system, or by other means that are approved by the Department. The method of disposal shall comply with applicable disposal requirements established by a county, municipal, or other local authority. There shall be no direct physical connection between the sewer system and the water circulation system of a public or semipublic swimming pool or spa.

R18-5-237. Lifeguard Chairs

Each public swimming pool shall have at least 1 elevated lifeguard chair for each 3,000 square feet of pool surface area or fraction thereof. At least 1 lifeguard chair shall be located close to the deep area of the swimming pool and shall provide a clear, unobstructed view of the swimming pool bottom. If a public swimming pool is provided with more than 1 lifeguard chair or the width of the public swimming pool is 45 feet or more, then lifeguard chairs shall be located on each side of the public swimming pool.

R18-5-238. Lifesaving and Safety Equipment

- A. Public and semipublic swimming pools shall have lifesaving and safety equipment that is conspicuously and conveniently located and maintained ready for immediate use at all times.
- B. Each public or semipublic swimming pool shall have 1 ring buoy or a similar flotation device. Each ring buoy or flotation device shall be attached to 50 feet of ¼ inch rope.
- C. Each semipublic and public swimming pool shall have at least one shepherd crook that is mounted on a rigid 16-foot pole.

R18-5-239. Rope and Float Lines

A rope and float line shall be installed across each public swimming pool on the shallow side of the break in grade between the shallow and deep portions of the pool [i.e., within 1 to 2 feet of the point where the floor slope begins to exceed 1 foot in 10 feet]. The rope shall be a minimum of ¾ inch in diameter and supported by floats spaced at intervals not greater than 7 feet. The rope and float line shall be securely fastened to wall anchors that are made of corrosion-resistant materials. The wall anchors shall be recessed or have no projection that constitutes a hazard when the float line is removed.

R18-5-240. Barriers

- A. A public swimming pool or spa and deck shall be entirely enclosed by a fence, wall, or barrier that is at least 6 feet high. A semipublic swimming pool or spa and deck shall be entirely enclosed by a fence, wall, or barrier that is at least 5 feet high. The height of the fence, wall, or barrier shall be measured on the side

of the barrier which faces away from the swimming pool or spa.

B. Fences or walls shall:

1. Be constructed to afford no external handholds or footholds;
2. Be of materials that are impenetrable to small children;
3. Have no openings or spacings of a size that a spherical object 4 inches in diameter can pass through; and
4. Be equipped with a gate that opens outward from the swimming pool or spa. The gate shall be equipped with a self-closing and self-latching closure mechanism or a locking closure located at or near the top of the gate, on the pool side of the gate, and at least 54 inches above the floor.

- C. The distance between the horizontal components of a fence shall not be less than 45 inches apart. The horizontal members shall be located on the interior side of the fence. Spacing or openings between vertical members shall be of a size that a spherical object 4 inches in diameter cannot pass through.
- D. The maximum mesh size for a wire mesh or chain link fence shall be a 1 3/4 inches square.
- E. Masonry or stone walls shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
- F. If a wall of a building serves as part of the barrier around a public or semipublic swimming pool or spa, there shall be no direct access to the swimming pool or spa through the wall except as follows:
1. Windows leading to the swimming pool or spa area shall be equipped with a screwed-in place wire mesh screen or a keyed lock that prevents opening the window more than 4 inches.
 2. A hinged door leading to the swimming pool or spa area shall be self-closing and shall have a self-latching device. The release mechanism of the self-latching device shall be located at least 54 inches above the floor.
 3. If an additional set of doors is required by the fire code allowing access to the swimming pool or spa, they shall be self-closing and self-latching, equipped with panic bars no less than 54 inches from the floor to the bottom of the bar and designated "For Emergency Use Only."
 4. Sliding doors leading to the swimming pool or spa area are prohibited except for sliding doors that are self-closing and self-latching.
- G. If a barrier is composed of a combination concrete masonry unit and wrought-iron, the wrought iron portion shall be installed flush with the outside vertical surface of the concrete masonry unit. The space between the wrought iron and the concrete masonry unit shall be 1/2 inch or less. The vertical members of the wrought iron shall be spaced 4 inches on center.
- H. Filtration, disinfection, and water circulation equipment shall be enclosed by a wall or fence.

R18-5-241. Public Swimming Pools; Bathhouses and Dressing Rooms

- A. Separate dressing rooms shall be provided for each sex. Dressing rooms shall be equipped with baskets or other checking facilities.
- B. All entrances to and exits from the dressing rooms shall be effectively screened to interrupt the line of sight of persons outside the dressing rooms.
- C. Walls and partitions of dressing rooms, locker rooms, toilets, and showers shall be light colored, smooth, nonabsorbent, and easily cleanable. Concrete or pumice blocks used for interior wall construction in these locations shall be finished and sealed to provide a smooth and easily cleanable surface. Partitions shall be designed so that a waterway is provided between partitions and the floor to permit thorough cleaning of the walls and floor areas with hoses and brooms.
- D. Floors shall be of nonslip construction, free of cracks or openings, and sloped to adequate drains so the surface will be free of standing water and puddles. Floors shall be sloped not less than $\frac{1}{4}$ inch per foot toward the drains to insure positive drainage. Carpeting is prohibited.
- E. All furniture shall be of simple character and easily cleanable. Locker compartments, partitions, booths, furniture, and other appurtenances in dressing rooms shall be so installed or raised above the floor to permit washing down the dressing rooms and bathhouse interiors.
- F. An adequate number of hose bibs shall be provided for washing down the dressing room or bathhouse interior.
- G. Dressing rooms, toilets, and showers shall be provided with adequate lighting and ventilation.
- H. Toilet facilities shall be provided for each sex. For male users, there shall be 1 toilet and 1 urinal for each 100 bathers or fraction thereof. For female users, there shall be 1 toilet for each 50 bathers, or fraction thereof. In no case shall less than 2 toilets be provided for female users. Sanitary napkin dispensers shall be installed in toilet or shower areas designated for female users.
- I. Shower and handwashing facilities with hot and cold water and soap shall be provided for each dressing room. Hot and cold water shall be provided at all shower heads. The water heater and thermostatic mixing valve shall be inaccessible to users and shall be capable of providing 2 gallons per minute of 90°F water to each shower head. A minimum of 2 shower heads shall be provided in each dressing room. Each dressing

room shall have 1 shower head for each 50 bathers or fraction thereof.

- J. One lavatory with an unbreakable mirror shall be provided in each dressing room for the first 100 users.
An additional lavatory and unbreakable mirror shall be provided for each additional 100 users or fraction thereof. Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory.
Soap dispensers shall be made of metal or plastic with no glass permitted.

R18-5-242. Semipublic Swimming Pools; Toilets and Lavatories

- A. A bathroom with a minimum of 1 toilet shall be provided for each sex.
- B. Each bathroom shall have at least 1 lavatory. Soap dispensers for providing either liquid or powdered soap shall be provided at each lavatory. Soap dispensers shall be made of metal or plastic with no glass permitted.
- C. An establishment that operates a semipublic swimming pool or spa and provides a private room with a toilet and lavatory for bathers shall be deemed to have complied with the requirements of this Section.

R18-5-243. Drinking Water Fountains

Drinking water from an approved source and dispensed through 1 or more drinking fountains shall be located on the deck of each public swimming pool or spa.

R18-5-244. Wading Pools

- A. A wading pool is a type of public or semipublic swimming pool. The design criteria prescribed in this Article for public or semipublic swimming pools apply, except as provided in this Section.
- B. A wading pool shall be physically set apart from public and semipublic swimming pools.
 - 1. A wading pool shall be separated from a public swimming pool by a minimum 4-foot high fence or partition with a self-closing, self-latching gate.
 - 2. A wading pool shall be separated from a semipublic swimming pool by at least 4 feet of deck.
 - 3. A wading pool shall not be located adjacent to the deep area of a public or semipublic swimming pool.

- C. A wading pool shall have a maximum depth of 24 inches. Water depths may be reduced from the stated maximums and brought to zero at the most shallow point of the wading pool.
- D. The floor of a wading pool shall be uniform with a maximum slope of 1 foot of fall in 10 feet. The floor of a wading pool shall have a slip-resistant surface.
- E. All wading pools shall have separate equipment for water circulation and disinfection. There shall be no cross-connection between the water circulation system of a wading pool and a public or semipublic swimming pool. The water in a wading pool shall have a maximum turnover cycle of 1 hour.
- F. At least 2 main drains shall be provided at the deepest point in a wading pool. Each main drain shall be covered by a grate which cannot be removed by users. The openings in the grate shall have a total area that is at least 4 times the area of the drain pipe. In the alternative, a wading pool may be equipped with a single gravity drain which discharges to a surge tank.
- G. Surface skimmers shall be provided on the basis of at least 1 skimmer for each 200 square feet of wading pool surface area. Surface skimmer flow rates shall be the same as required for public and semipublic swimming pools. Where only 1 skimmer is provided, the main drain may be connected through the skimmer.
- H. Return inlets shall be provided and arranged to produce a uniform circulation of water and maintain a uniform disinfectant residual throughout the wading pool. Where 3 or more return inlets are required, they shall be on a closed loop piping system.
- I. Suction outlets in a wading pool shall have plumbing provisions so as to relieve any possibility of entrapping suction.
- J. Gaseous chlorine shall not be used for the disinfection of wading pool water.
- K. A drinking fountain at a height convenient to small children or a drinking fountain with a raised step shall be provided in the area of the wading pool.

R18-5-245. Timers for Public and Semipublic Spas

The timer for a public or semipublic spa which controls the hydrotherapy jets shall be located at least 5 feet from the spa and shall have a maximum time limit of 15 minutes.

R18-5-246. Air blower and Air Induction Systems for Public and Semipublic Spas

An air blower system or air induction system for a public or semipublic spa shall comply with the following requirements:

1. The system shall prevent water backflow which could cause an electrical shock hazard;
2. Air intake sources shall not introduce water, dirt, or contaminants into the spa;
3. The system shall be properly sized for a commercial spa application;
4. If the air blower is installed within an enclosure or indoors, then adequate ventilation shall be provided;
and
5. Integral air passages shall be pressure tested and shall provide structural integrity to a value of 1½ times the intended working pressure.

R18-5-247. Water Temperature in Public and Semipublic Spas

The temperature of heated water coming into a public or semipublic spa shall not exceed 104°F.

R18-5-248. Special Use Pools

- A. A person who intends to construct a special use pool shall notify the Department and provide plans, specifications, and a description of the intended use of the special use pool. The Department shall use best professional judgment in approving a special use pool, taking into consideration the intended use of the pool, the conditions under which it will operate, and the safety of users. The Department may consider the design requirements prescribed by an official sanctioning athletic body such as the National Collegiate Athletic Association [NCAA], National Federation of State High School Associations [NFSHSA], U.S. Swimming, U.S. Diving, or the Internationale de Natation Amateur [FINA] in using best professional judgement to approve a special use pool that is intended for competitive swimming and diving.
- B. A special use pool that is designed with exercise or training bars in the pool shall be restricted to the special use when the bars are located in the pool. The bars shall:
 1. Be constructed of durable and corrosion-resistant material.
 2. Be sealed, welded shut, or capped at both ends to prevent retention of water within the bars.

3. Bars may be removable. Removable bars shall be wedge anchored in place and the anchors shall be covered. Water-tight anchor plugs [95% efficiency] shall be provided when the bars are removed.
 4. Extend not more than 4 inches from the side of the pool into the water. The minimum clear opening from the inside of the bar to the side of the swimming pool shall not be less than 2 inches.
- D. A special use pool that is designed with a ramp shall comply with the following:
1. The ramp shall be constructed of slip-resistant material;
 2. The slope of the ramp shall not exceed 1 foot in 12 feet;
 3. The width of the ramp shall be at least 3 feet;
 4. The ramp shall have a level platform at the top and the bottom of the ramp;
 5. The ramp shall be equipped with at least a 3½ foot high guardrail installed on the deck and extending the length of the ramp;
 6. The ramp shall be constructed with return inlets located on the pool and ramp walls along the length of the ramp.

R18-5-249. Variances

- A. The Department may grant a variance from a requirement prescribed in this Article upon a demonstration by the applicant that an alternative design, material, appurtenance, or technology is equivalent to a requirement prescribed in this Article. If a variance is granted, it shall be conditioned upon the applicant's use of the approved alternative.

- B. The Department shall not grant a variance that results in an unreasonable risk to the health of swimming pool or spa users.
- C. The applicant shall request a variance in writing. A variance request shall contain the following information:
1. Identification of the requirement prescribed in this Article for which a variance is requested;
 2. Explanation of the reasons why the applicant cannot comply with the requirement;
 3. A complete description of the alternative design, material, or technology to be installed and used in the swimming pool or spa, including design plans, specifications, and a description of the cost;
 4. A demonstration that the alternative design, material, or technology to be installed and used in the swimming pool or spa is equivalent to the requirement in this Article and will not result in an unreasonable risk to users;
 5. A statement that the applicant will perform reasonable requirements prescribed by the Department that are conditions of a variance.
- D. The applicant shall submit a request for a variance with an application for design approval. The Department shall determine whether the application for design approval and the variance request are complete. Within 30 days after the date of the submittal of the application for design approval and the variance request, the Department shall issue a written notice to the applicant that states that the request for a variance and the application for design approval are complete or which states that the request for a variance or the application for design approval is incomplete and identifies specific information deficiencies in the application for design approval or the variance request.
- E. The Department may convene an advisory committee consisting of representatives of public and semipublic swimming pool and spa owners, public and semipublic swimming pool and spa building contractors, professional engineers, and county environmental and health departments to make a recommendation on a variance request.
- F. If the Department grants the request for a variance, the Department shall identify the requirement for which the variance is granted, specify any conditions to the grant of a variance, and issue a design approval. If the Department denies the request for a variance, the Department shall issue a notice of intent to deny the

request for a variance to the applicant. The notice shall state the reasons for the denial of the request for a variance and shall include a description of the applicant's right to request a hearing on the denial of the variance request pursuant to A.R.S. §41-1092.03 and to request an informal settlement conference pursuant to A.R.S. §41-1092.06. If the Department denies a request for a variance, the Department may either deny the application for design approval or issue a design approval that requires compliance with the requirement for which the variance is requested.

- G. In considering a request for a variance from a requirement prescribed in this Article, the Director shall consider the following factors:
1. The intended use of the public or semipublic swimming pool or spa;
 2. The safety of the alternative design, material, or technology for which a variance is requested; and
 3. The cost and other economic considerations associated with requiring compliance with the requirement prescribed in this Article as compared to the alternative for which a variance is requested.

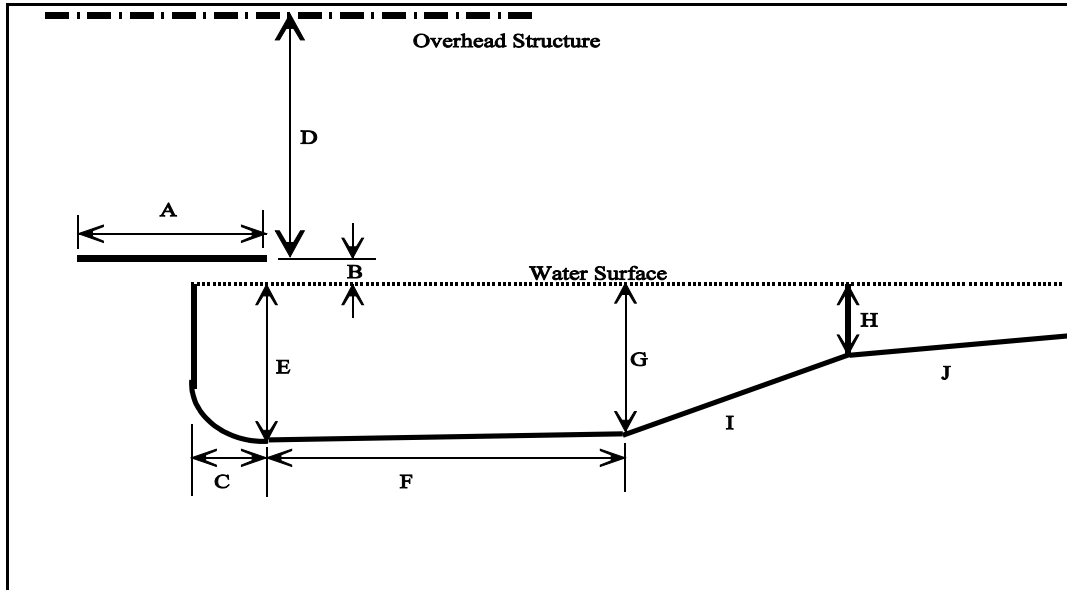
R18-5-250. Inspections

- A. An inspector from the Department, upon presentation of credentials, may enter into any public or semipublic swimming pool or spa to determine compliance with this Article. The inspector may inspect records, equipment, and facilities; take photographs; and take other action reasonably necessary to determine compliance with this Article.
- B. The owner or manager of a public or semipublic swimming pool or spa may accompany the inspector during an inspection.
- C. An inspector from the Department may inspect a public or semipublic swimming pool or spa without giving prior notice of the inspection to the owner or operator of the swimming pool or spa.

R18-5-251. Enforcement

- A. If an inspector finds a violation of this Article, the Department may issue a notice of violation to the owner of a public or semipublic swimming pool or spa. A notice of violation shall state specifically the nature of the violation and shall allow a reasonable time for the owner to correct the violation.
- B. If the Director has reasonable cause to believe that a person has constructed a public or semipublic swimming pool or spa in violation of this Article, the Director may order the closure of the swimming pool or spa by issuing a cease and desist order by following the procedures for abatement of environmental nuisances in A.R.S. §49-142.

ILLUSTRATION A. DIVING WELL DIMENSIONS FOR SWIMMING POOLS

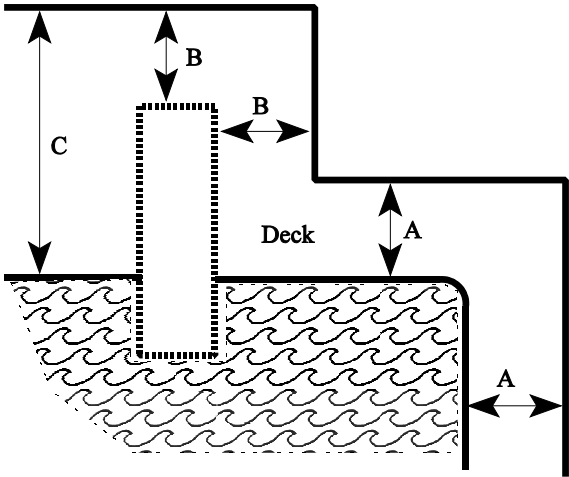


Note: This profile does not apply to a special use pool that is designed for competitive diving.

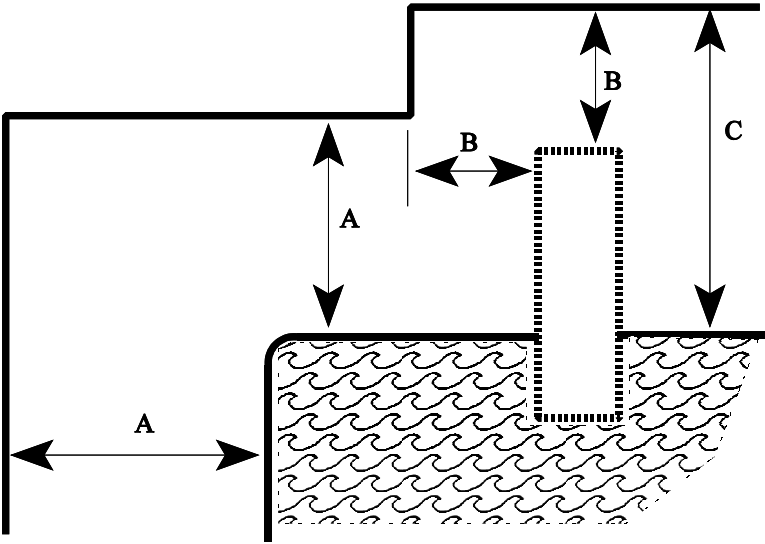
A. Maximum length of diving board	10 feet
B. Maximum height of board above the water	20 inches
C. Overhang of the board from wall	Minimum: 2 feet Maximum: 3 feet
D. Minimum distance to an overhead structure	15 feet
E. Minimum depth of water at the plummet	9 feet
F. Distance from plummet to start of upslope	18 feet
G. Minimum depth of water at start of the upslope	Depth of water at plummet minus 6 inches
H. Depth of water at the breakpoint	Public swimming pool: 5 feet Semipublic swimming pool: 4 feet
I. Maximum slope: breakpoint towards deep end	1 foot of fall in 3 feet
J. Slope of bottom in shallow area	1 foot of fall in 10 feet
Minimum width of pool in diving area	20 feet
From plummet to pool wall at the side	10 feet

ILLUSTRATION B. MINIMUM DISTANCE REQUIREMENTS FOR DECKS

Dimension	Public (in Feet)	Semipublic (in feet)
A	10	4
B	5	4
C	15	11



Semipublic Swimming Pool



Public Swimming Pool